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“Not now, I had a long day”: Social withdrawal as a coping strategy for managing stress

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by

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“Not now, I had a long day”: Social withdrawal as a coping strategy for managing stress

by

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On days when people experience more stress outside of their relationship (e.g., work stress, transportation problems), they tend to experience negative mood states, which often spillover into interactions with their partner and increase the likelihood of conflict within the relationship. Within the stress literature, it has been argued that engaging in social withdrawal (i.e., withdrawing from social interaction with one’s partner) after a stressful day may serve to reduce stress spillover effects by limiting expressions of negativity within the relationship. Yet, although some indirect evidence suggests that social withdrawal may be beneficial for relationship well-being, to date research has not directly examined whether the use of social withdrawal as a coping response may buffer the relationship from the harmful effects of stress. Moreover, prior work has focused on the potential immediate effects of social withdrawal, and not the long-term consequences of using this strategy. For instance, in addition to reducing expressions of negativity, the use of social withdrawal as a coping strategy may limit opportunities for couples to engage in positive exchanges that may help maintain their relationship happiness over time. Therefore, the current project presents two studies examining the immediate and long-term effects of engaging in social withdrawal on high stress days for

couples' relationship well-being. The first study utilized daily diary data to examine whether the use of social withdrawal may moderate the link between daily stress and same-day relationship outcomes. It was predicted that on days in which individuals faced greater stress and engaged in social withdrawal, both they and their partner would report fewer expressions of negativity enacted by the stressed individual toward the partner, fewer positive exchanges within the relationship, and greater relationship satisfaction compared to days in which individuals faced greater stress but did not engage in social withdrawal (Study 1). Contrary to hypotheses, however, there was no support for notion that social withdrawal may protect relationships from the negative implications of individuals' stress. The second study aimed to replicate and extend Study 1 by incorporating a focus on the potential long-term effects of social withdrawal. Again, and contrary to hypotheses, social withdrawal failed to buffer the immediate negative effects of stress. In addition, Study 2 examined whether couple members' tendency to use social withdrawal as a coping strategy for managing stress was associated with changes in their relationship satisfaction over time. A curvilinear association was expected, such that when individuals reported using this coping strategy either too little or too often, both individuals and their partners would experience steeper declines in their relationship satisfaction over time. In contrast to predictions, as individuals' tendency to engage in social withdrawal on high stress days increased from low to moderate, their partners experienced steeper declines in their satisfaction over time; however, the harmful effects of this strategy for partners' satisfaction were reduced as individuals' tendency to engage in social withdrawal on high stress days increased from moderate to high. Taken together, these results suggest that social withdrawal may not be as beneficial for limiting stress spillover as previous research has suggested.

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Chapter 1: Introduction

The quality of a couple's relationship is, to some degree, shaped by each partner's surrounding life circumstances. For instance, on days in which individuals encounter more stressors outside the relationship (e.g., work stress, transportation problems), they tend to experience increases in their anxiety, irritability, and/or exhaustion (Chan & Margolin, 1994; ten Brummelhuis et al., 2010; Williams & Alliger, 1994). These negative affective states often carry over into the relationship and can increase the likelihood of experiencing conflict or negativity within the relationship, a phenomenon referred to as stress spillover (e.g., Randall & Bodenmann, 2009). Specifically, on days of greater stress, individuals are more likely to exhibit a host of negative relational behaviors, such as showing anger or impatience toward their partner and voicing criticism of their partner (e.g., Bolger et al., 1989; Buck & Neff, 2012; Story & Repetti, 2006; Schulz et al., 2004). As a result, stress has been shown to indirectly predict declines in relationship quality over time through couples' engagement in expressions of negativity toward one another (Allen et al., 2010; Randall & Bodenmann, 2017; Story & Bradbury, 2004).

Given the consequences of stress for individuals' negative mood, some individuals may engage in social withdrawal (i.e., disengaging from social interaction with a partner) on days of greater stress as a coping response (Repetti, 1989; Repetti & Wood, 1997; Story & Repetti, 2006). For example, when returning home from a stressful day, individuals may be more distant and less responsive to their partner, choosing instead to spend more time alone in order to replenish and recover from the day (e.g., Doumas et al., 2003; Repetti, 1989; Wang et al., 2011). It has been theorized that this coping response could actually be beneficial for relationship well-being, as limiting interactions with a partner on stressful days may leave fewer opportunities for

expressions of negativity to occur, thereby reducing stress spillover effects (Repetti, 1989; Repetti, 1994; Repetti & Wood, 1997; Schulz et al., 2004). To date, however, research has not directly examined this possibility. In addition, the potential differences in the short-term and long-term consequences of using social withdrawal to cope with stress for relational well-being have yet to be explored. For instance, limiting interactions with a partner on stressful days not only equates to fewer opportunities for negativity to occur—it also may reduce individuals' ability to experience positive exchanges with their partner (Repetti, 1994; Repetti & Wood, 1997), which can have implications for the relationship over time (e.g., Hill, 1998). To this end, the current paper aimed to better understand if and when this coping strategy may be adaptive by directly examining the short-term and long-term effects of engaging in social withdrawal on stressful days for relationship quality.

SOCIAL WITHDRAWAL AS A COPING STRATEGY ON STRESSFUL DAYS: SHORT-TERM CONSEQUNCES

Historically, most research on withdrawal behavior within relationships has examined social withdrawal in the context of marital conflict. In this literature, withdrawal is frequently operationalized as disengaging from a discussion with a partner who has expressed dissatisfaction with some aspect of the relationship (e.g., disengaging from a demand/request for change made by the partner by walking away, sulking, or giving the partner the "silent treatment"; DeLongis & Preece, 2002; King & DeLongis, 2014; Preece & DeLongis, 2005). As such, withdrawal has often been considered a dysfunctional behavior that allows problems to go unresolved and thus increases the likelihood of marital dissatisfaction and marital instability (Eldridge & Baucom, 2012; Eldridge & Christensen, 2002).

In other situational contexts, however, the act of disengaging from social interactions with a partner may prove beneficial for relationship well-being. Specifically, within the stress

literature, researchers have argued that social withdrawal in response to non-relational stress may be an adaptive coping mechanism that serves to protect relationships from the harmful consequences of that stress (Repetti, 1989). This argument is based on evidence from both naturalistic and experimental studies indicating that coping with stress taxes individuals' energy and cognitive resources (e.g., Hammond, 2000; Hobfoll, 1989) and therefore can undermine individuals' capacity to interact with their partner in a relationship-promoting fashion (Buck & Neff, 2012; Bodenmann et al., 2015; Bodenmann & Shantinath, 2004). For instance, individuals experiencing greater stress often report feeling overwhelmed (Buck & Neff, 2012) and exhibit reduced perspective-taking abilities (Tomova et al., 2014), which together may increase the likelihood of stressed individuals enacting less sensitive and more negative behaviors when interacting with their partner (Buck & Neff, 2012). Given that stress can exhaust the resources necessary for positive relationship functioning, engaging in social withdrawal, or becoming more psychologically distant and less available to a partner after a stressful day, may aid in limiting the negative behaviors that individuals often exhibit on high stress days. When individuals take the time and space to return to their baseline emotional and physiological state, this should not only create a situation in which there are fewer opportunities for the couple to interact (which equates to fewer opportunities for individuals to express negativity toward their partner; e.g., Doumas et al., 2003; Repetti, 1989; Wang et al., 2011), but also allow individuals to recover more quickly from their stress (Larson & Csikszentmihalyi, 1983; Repetti, 1992; Repetti et al., 2009). In other words, by engaging in social withdrawal after a stressful day, individuals may have the opportunity to replenish their energy and recharge, thereby reducing the intensity of their negative affect.

To date, however, very few studies have examined the potential benefits of engaging in social withdrawal after a stressful day. Some research within the parent-child literature suggests that social withdrawal may limit the harmful effects of stress on family relationships, at least in the short-term. However, these same studies suggest that in addition to limiting the detrimental effects of stress spillover, social withdrawal may reduce positive exchanges between parents and children as well. For instance, daily diary studies have found that fathers were less likely to report disciplining their children and using negative emotional tones when speaking to their children after a stressful workday; however, on these same days, fathers also reported being less warm and emotionally involved with their children (Repetti, 1994). Similar patterns were shown in a study of mother-child dyads. On each day over the course of five days, mothers completed a measure of job stressors before picking up their child from day care. Before going to bed, mothers reported on the interactions that took place with their child throughout the evening. In addition, a subsample of mother-child dyads was also videotaped during their reunion at the day care center, and mothers' behaviors were later coded by independent observers. Results revealed that on days of higher stress, mothers tended to show fewer signs of impatience towards their children (Repetti & Wood, 1997). However, there were also significant reductions in observers' ratings and mothers' reports of maternal speech (i.e., the amount of time the mother spent speaking to their child) and signs of affection when interacting with their child (Repetti & Wood, 1997). Together, these studies suggest that while parents may not be as emotionally available to their children following stressful workdays, by engaging in social withdrawal, they may have fewer negative interactions with them as well.

In the context of romantic dyads, the first study to examine social withdrawal as a potentially beneficial coping strategy utilized a sample of married male air traffic controllers

(Repetti, 1989). This daily diary study found that on days in which men experienced greater stress at work, they were (a) more likely to be withdrawn and psychologically distant from their partner and (b) less likely to engage in expressions of anger and criticism toward their partner. Based on this pattern of findings, it was suggested that the use of withdrawal might diminish the likelihood of individuals expressing negativity toward their partner. However, later studies raised questions regarding the adaptiveness of social withdrawal, finding that on days when they experienced greater stress outside the home, spouses, particularly women, were both (a) more likely to report withdrawing from their partner in the home and (b) *more* likely to engage in expressions of anger and criticism toward their partner (Schulz, et al., 2004; Story & Repetti, 2006). It is important to note, however, that the interpretation of these study findings on romantic dyads are muddied by the fact that none of these studies directly examined the link between the use of social withdrawal on high stress days and marital behaviors. In other words, to date, research has failed to examine whether, on days of greater stress, individuals who engage in social withdrawal enact fewer expressions of negativity toward their partner compared to individuals who do not use social withdrawal as a coping strategy.

Notably, previous research on romantic dyads also has not examined the link between the use of social withdrawal on high stress days and positive exchanges between partners. Given that engaging in social withdrawal may reduce the opportunities for couples to interact (e.g., Doumas et al., 2003), there may not only be fewer opportunities for negativity between partners to occur, but also for exchanges of positivity between partners to occur. As mentioned above, research from the parent-child literature suggests that when parents engage in social withdrawal on high stress days, they tend to be less warm towards their children, less emotionally available to their children, and less behaviorally involved with their children (Repetti, 1994; Repetti & Wood,

1997). In line with these findings, within romantic relationships, stressed individuals may also show less affection towards their partner and partake in fewer shared activities with their partner on high stress days when they engage in social withdrawal.

If the use of social withdrawal as a coping response to stress not only reduces expressions of negativity, but also reduces positive exchanges between partners, it is possible that the use of social withdrawal as a coping strategy for recovering from stress may be differentially linked to each partners' satisfaction within the relationship. In general, on days when individuals are experiencing greater stress, both they and their partner tend to report lower levels of relationship satisfaction (Karney et al., 2005; Neff & Karney, 2004; Neff & Karney, 2007). However, if stressed individuals have the opportunity to replenish and recuperate from their draining day by engaging in social withdrawal, then they may feel more refreshed and experience increased positive mood (e.g., Larson & Csikszentmihalyi, 1983). As a result, their own relationship satisfaction may be shielded from the negative consequences of their stressful day. The partner's satisfaction, however, may not be shielded to the same degree. As previously suggested, when stressed individuals engage in social withdrawal, they may be less responsive to the partner and engage in fewer shared activities with them. Consequently, partners may feel less satisfied on days when stressed individuals engage in social withdrawal. Overall, then, the short-term benefits of social withdrawal may be greater for the stressed individual than for their partner, a possibility that has not been explored in prior research.

In light of these limitations of the previous literature, the current study aimed to extend prior research by directly examining whether social withdrawal may moderate the link between individuals' daily stress and both partners' daily relationship well-being. Based on the notion that withdrawing after a stressful day may aid recovery and limit negative exchanges between

partners, it was expected that the use of this coping strategy may have some benefits in the short-term. In other words, on days in which individuals experienced higher levels of stress and engaged in social withdrawal, both they and their partner were expected to report that the stressed individual enacted fewer expressions of negativity toward the partner compared to days when individuals experienced higher levels of stress and did not engage in social withdrawal. Due to the limited opportunities for partners to interact, however, exchanges of positivity may also be reduced when individuals engage in social withdrawal on a high stress day. As a result, it was expected that on days in which individuals faced greater stress and engaged in social withdrawal, both they and their partner would report fewer instances of the individual engaging in positive exchanges with the partner compared to days when individuals reported greater stress but did not engage in social withdrawal. In terms of the effect of social withdrawal on relationship satisfaction, the negative association between daily stress and relationship satisfaction was expected to be weakened for individuals who were experiencing elevated levels of stress on days in which they also engaged in social withdrawal. The effects of stressed individuals' social withdrawal on their partners' relationship satisfaction, however, might not be as beneficial. In other words, it was expected that the link between the individuals' daily stress and the partners' relationship satisfaction would be weakened, but this buffering effect was not expected to be as strong for partners as it was for stressed individuals.

SOCIAL WITHDRAWAL AS A COPING STRATEGY ON STRESSFUL DAYS: LONG-TERM CONSEQUNCES

Although withdrawing from a partner following a stressful day may have some immediate benefits for the relationship, it is less clear whether the tendency to withdraw continues to benefit the relationship over time as, to date, no research has examined the long-term consequences of using social withdrawal as a coping mechanism for relationship quality. As

previously argued, when used occasionally, engaging in social withdrawal on high stress days may be adaptive (e.g., Repetti, 1989; Schulz et al., 2004). In fact, having a low tendency to use social withdrawal may be detrimental to the relationship. Given that the use of social withdrawal should limit stress spillover and allow stressed individuals to recover from high stress days, if social withdrawal is rarely used by individuals as a coping response, couple members may not be able to reap the beneficial effects of this strategy. More specifically, external stress may carry over into the relationship, making it more likely for stressed individuals to engage in expressions of negativity toward their partner. Consequently, both partners' relationship satisfaction may suffer.

However, several lines of research suggest that overuse of this coping strategy may also have insidious effects. For instance, habitual use of social withdrawal may disrupt the sense of connection within the relationship. According to The Interpersonal Process Model of Intimacy, partners develop a strong connection through self-disclosing (i.e., disclosing personal information, thoughts, and feelings) to one another and showing responsiveness to the partner after a disclosure (Reis & Shaver, 1988). If, after a disclosure, the individual perceives their partner's response as understanding, validating, and caring, intimacy can begin to build and will continue to grow across repeated interactions over time. For instance, partners are more likely to feel connected with each other when they both can discuss their vulnerabilities and mutually validate each other's self-disclosure (e.g., Laurenceau et al., 1998; Laurenceau et al., 2005; Mitchell et al., 2008). In addition, both disclosure and responsiveness have been shown to be vital for relationship satisfaction (Cordova et al., 2005; Greef & Malherbe, 2001; Schaefer & Olson, 1981; Tolstedt & Stokes, 1983; Waring, 1988). Consequently, if an individual is habitually engaging in social withdrawal to recover from stress, they may disrupt the intimacy-

building process, leaving fewer opportunities to communicate and disclose their thoughts and feelings to their partner (i.e., fewer opportunities to foster intimacy). Relatedly, as a result of communicating and disclosing less, individuals may also take away opportunities for their partner to demonstrate responsiveness. In this way, although occasional social withdrawal may offer a protective effect, having a stronger tendency to use social withdrawal is likely to undermine relationship quality over time.

Similarly, and as previously noted, a stronger tendency to use social withdrawal as a coping strategy may also limit couples' ability to accumulate shared positive moments within the relationship. By definition, engaging in social withdrawal means that individuals are less engaged in leisure time or other pleasant activities with their partner. This can be problematic, as previous research shows that engaging in small, positive moments with one's partner (e.g., laughing together, pursuing a shared hobby together) is important for maintaining and enhancing the relationship over time (Gable et al., 2004; Girme et al., 2014; Orthner, 1975). For instance, sharing time together at the end of the workday has been shown to be especially important for affirming and strengthening relational bonds (Campos et al., 2009). In fact, a lack of shared leisure time has been shown to be one of the strongest predictors of relationship dissolution (Hill, 1988). In addition, by engaging in these positive moments with each other, couples can build a reserve of emotional capital, which has been shown to protect the relationship when negative moments do arise (Feeney & Lemay, 2012; Walsh et al., 2017). When individuals frequently engage in social withdrawal in response to their stress, however, there are fewer opportunities for couples to engage in these positive moments and build up their reserve of emotional capital, which again, may be harmful for relationships over time.

Together, then, these lines of research indicate that engaging in social withdrawal may actually be damaging for the relationship if this coping tactic is utilized to the point that it creates an emotional separation between partners. Consequently, a non-linear (i.e., curvilinear) association was expected to emerge between the tendency for partners to use this strategy and their relationship satisfaction over time. If the tendency to use social withdrawal to cope with stress is too low, both individuals' and partners' relationship satisfaction were expected to suffer as expressions of negativity enacted toward the partner begin to rise. As the use of social withdrawal increases from low to moderate, the relationship might benefit, as taking the time and space to replenish one's resources after a stressful day might aid in reducing tension and decreasing the amount of negative behaviors stressed individuals enact toward their partners without also reducing couples' emotional connection. However, a more persistent reliance on this coping strategy was expected to be harmful to both partners' satisfaction in the long-term, as the disconnection between partners grows and intimacy is lost. Therefore, although there may be some short-term benefits related to using this coping strategy, those benefits should be considered alongside the potential long-term costs in order to better understand when this strategy may be most adaptive.

Chapter 2: Overview of the Current Studies

Although it has been theorized that withdrawing from a partner on days of greater stress may serve to protect the relationship by reducing the amount of negative behaviors enacted by the stressed individual toward the partner, research examining this possibility is quite limited. In addition, while studies from the parent-child literature suggest that positive exchanges may also be limited on days when individuals engage in social withdrawal on days of greater stress, this idea has yet to be examined in the context of couples. Thus, to better understand whether social withdrawal may be an adaptive coping strategy under conditions of stress, the current paper presents two studies investigating the short-term and long-term effects of social withdrawal for relationship well-being. The first study aimed to determine the short-term/immediate effects of social withdrawal. Specifically, using daily diary data collected from a sample of both dating and married couples, Study 1 examined whether the use of social withdrawal moderated the link between daily stress and same-day relationship outcomes, such that both couple members would report fewer expressions of negativity enacted by the stressed individual toward the partner, fewer exchanges of positivity within the relationship, and greater relationship happiness on days of greater stress if the stressed individual engaged in social withdrawal that day. The second study built on these ideas by directly comparing the short-term and long-term effects of social withdrawal. Using daily diary data collected from a sample of newlywed couples at the beginning of their marriage, this study aimed to replicate the findings from Study 1 by again examining whether the use of social withdrawal moderated the link between daily stress and same-day relationship outcomes. Moreover, this study examined whether couple members' tendency to use social withdrawal as a coping strategy for managing stress across the diary

period predicted changes in both partners' relationship happiness over the early years of marriage.

Chapter 3: Study 1

Study 1 utilized data collected from a sample of 282 couples participating in study of relationship experiences across the lifespan. Couples were either a) in dating relationships of three years or less or b) in marriages of at least 10 years in length. After completing a background survey, couples participated in a 21-day diary task, which assessed their non-relational stress, social withdrawal behavior, expressions of negativity within the relationship, positive exchanges within the relationship, and relationship satisfaction each day. Analysis of these data addressed several key questions.

First, does social withdrawal moderate the link between daily stress and same-day expressions of negativity? Drawing from prior work suggesting that withdrawing from a partner after a stressful day should help individuals recuperate and return to their baseline emotional and psychological levels thereby limiting stress spillover effects, the current study was the first to directly examine whether engaging in social withdrawal on high stress days is linked to lower expressions of negativity enacted by the stressed individual toward the partner. Specifically, it was expected that on days when individuals reported greater stress and engaged in social withdrawal, both they and their partner would report fewer instances of the individual expressing negativity toward the partner compared to days when individuals reported greater stress but did not engage in social withdrawal.

Second, does social withdrawal moderate the link between daily stress and same-day positive relationship exchanges? Because prior research in the parent-child literature suggests that parents tend to be less warm, less emotionally available their children, and less behaviorally involved with their children when they engage in social withdrawal on high stress days (Repetti, 1994; Repetti & Wood, 1997), it was expected that a similar pattern would emerge when

examining couples. More specifically, in the current study, it was predicted that on days in which individuals faced greater stress and engaged in social withdrawal, both they and their partner would report fewer instances of the individual engaging in positive exchanges with the partner compared to days when individuals reported greater stress but did not engage in social withdrawal.

Third, does social withdrawal moderate the association between daily stress and same-day relationship satisfaction? Based on previous work examining stress spillover and stress crossover (e.g., Neff & Karney, 2004; Neff & Karney, 2007), on days when individuals are experiencing greater stress than normal, both they and their partners should report lower levels of relationship satisfaction. Given that social withdrawal should serve to aid individuals' recovery from stress and minimize expressions of negativity, it was expected that on days when individuals experienced greater stress and engaged in social withdrawal, the negative link between their daily stress and their own daily relationship satisfaction would be weakened. However, because the partner might feel disconnected from the stressed individual on days when the individual engaged in social withdrawal, the partner might not receive the same level of benefits from this coping strategy. That is, although the negative association between individuals' daily stress and their partners' daily relationship satisfaction was expected to be reduced on days in which the stressed individual engages in social withdrawal, this buffering effect was predicted to be weaker for the partner than for the individual.

Given the unique features of the sample, this study also addressed an ancillary question; specifically, I examined if the potential buffering effect of social withdrawal was moderated by relationship status. In dating and married couples, social withdrawal was expected to weaken the link between daily stress and both expressions of negativity and exchanges of positivity; thus, it

was expected that for both dating and married couples, social withdrawal would weaken the association between individuals' daily stress and both partners' reports of individuals' expressions of negativity toward the partner and exchanges of positivity with the partner. However, the buffering role of social withdrawal on the association between daily stress and relationship satisfaction was expected to depend on the couples' relationship status. According to relational turbulence theory, the early phases of a relationship tend to be characterized by greater relationship uncertainty (i.e., doubt about the relationship) as couple members navigate their increasing interdependence (Solomon & Knobloch, 2004). When couple members experience this uncertainty about their relationship, they tend to be particularly vigilant for any issues or behaviors that could indicate trouble for the relationship (Solomon & Knobloch, 2004). This increased vigilance for relationship problems, in turn, can serve to further heighten relationship uncertainty, creating a circular pattern that can be detrimental for relationship stability (Knobloch, 2007). Applying this idea to the current project, because social withdrawal can be an ambiguous behavior, couple members in newer relationships may not have enough experience in the relationship to know how to interpret and respond to their partner when the partner engages in this coping strategy. As a result, when an individual engages in social withdrawal after a stressful day, their partner might feel a greater sense of uncertainty within the relationship, which could have implications for the partner's relationship satisfaction. Thus, it was expected that the buffering effect of social withdrawal on the association between individuals' daily stress and their partner's relationship satisfaction may be weaker among newly-dating couples than among couples in long-term, established marriages. Put another way, although the partners of stressed individuals were expected to derive fewer benefits from individuals use of social withdrawal as a coping response, partners in newer dating relationships were predicted to be especially unlikely

to reap the benefits of this strategy. Notably, as stressed individuals are likely aware of the reasons underlying their social withdrawal, they are unlikely to view this coping strategy as a threat to the relationship. Therefore, the buffering effect of social withdrawal on the association between individuals' daily stress and their own daily relationship satisfaction was not expected to be moderated by relationship status.

Finally, all results were anticipated to hold when adjusting for four potentially meaningful covariates. First, given the wide age range of the sample, age was adjusted for in light of previous research suggesting that older adults tend to be happier and exhibit fewer negative behaviors within their relationship (Birditt & Fingerman, 2003; Fingerman, et al., 2004). Second, whether the couple live together was adjusted for as cohabiting couples are more interdependent and thus may be more aware of and affected by social withdrawal behaviors. Third, to ensure any significant effects were not driven by differences in couple members' overall relationship satisfaction, general relationship satisfaction was also accounted for. Finally, whether or not children were living in the home was also adjusted for in the analyses given that social withdrawal may be especially detrimental for parents, as individuals who engage in social withdrawal may leave their partner with more parenting duties while the individual recuperates.

METHOD

Participants

Couples who were either (a) in dating relationships of 3 years or less or (b) in marriages of at least 10 years in length were recruited for a broader study of relationships across the lifespan by placing advertisements in community spaces (e.g., farmers' markets, retirement/senior living centers) and on social networking websites (e.g., *Facebook, Reddit*). Data collection for the study began in July 2015 and continued through September 2019. All

couples met the following eligibility requirements: a) both partners reported being in good health (i.e., rated their health as the same or better than the health of most people their age) and b) both partners reported at least moderate levels (e.g., several times a year) of involvement in organized activities, volunteer activities, and/or time with friends and family. These eligibility requirements were implemented to limit potential confounds between health and age-related processes (Brown & Shinohara, 2013; Charles & Carstensen, 2008). As a primary goal of the broader study was to examine age and relationship length differences in relationship processes, sample size was determined through a power analysis for detecting these effects, coupled with funding constraints. Initially, 313 different-sex couples enrolled in the study. However, 18 couples withdrew before completing the background questionnaire, and 13 couples withdrew after completing the background questionnaire (i.e., before participating in the lab and daily diary tasks).[1] Thus, as the primary measures of interest were collected as part of the daily diary task, the current study utilized data from the 282 couples who participated in this portion of the study, which is described below.[2] This final sample included 200 married couples (70.9%) and 82 dating couples (29.1%).

On average, married participants were 51.5 years old (*SD* = 12.8; Median = 50.0; Range = 30 – 84) and had been married 25.5 years (*SD* = 12.3; Median = 23.0; Range = 10 – 56). Dating participants were 44.5 years old (*SD* = 12.7; Median = 41.0; Range = 30 – 88) and had been dating for 12.7 months (*SD* = 9.7; Median = 9.0; Range = 1 month – 36 months) on average. All married couples lived together, and 34% of dating couples lived together. Overall,

[1] The breakdown of the 13 couples who withdrew prior to attending the lab session is as follows: in 6 couples, both couple members completed the background survey prior to withdrawing; in 6 couples, only the female completed the background survey (the male did not); in one couple, only the male completed the background survey (the female did not). Thus, there was background data for 294 females and 289 males.

[2] Two males within this sample of 282 couples did not finish completing their background questionnaire, although they did attend the lab session and participate in the daily diary task. Thus, there was some missing data for these two participants.

41% of individuals reported having children under 18 living in their home. Among couples who were cohabitating, 45% reported living with children under 18 years old. Across both married and dating couples, seventy-nine percent of males identified as White, 12.1% as Hispanic/Latino, 5.0% as African American, 1.4% as Asian American, and 1.8% as other (data was missing for 0.4% of males). Seventy-six percent of females identified as White, 13.5% as Hispanic/Latina, 2.8% as African American, 1.4% as Asian American, and 1.8% as other (data was missing for 0.4% of females).

In terms of the highest educational degree for males, 16.1% reported having a high school diploma or GED, 13.9% reported an Associate's/vocational degree, 37.9% reported a Bachelor's degree, 23.6% reported a Master's degree, and 8.6% reported a PhD, MD, or DDS, etc. For females' educational attainment, 14.2% reported a high school diploma or GED, 9.9% reported an Associate's/vocational degree, 40.8% reported a Bachelor's degree, 28.0% reported a Master's degree, and 7.1% reported a PhD, MD, DDS, etc. Sixty-six percent of men were employed full time, 6.1% were employed part time, 2.5% were unemployed and looking for work, 0.7% were homemakers, 0.4% were disabled and unable to work, 18.9% were retired, and 5.7% indicated other working arrangements. Forty-seven percent of women were employed full time, 14.9% were employed part time, 2.5% were unemployed and looking for work, 10.3% were homemakers, 1.1% were disabled and unable to work, 16.7% were retired, and 5.7% reported another type of work category. The median combined household income of couples was between $80,001 and $90,000 USD.

Procedure

Participants completed two tasks relevant to the current study. First, upon enrolling in the study, participants completed a background questionnaire that included assessments of general

relationship satisfaction, cohabitation status, parenting status, and age. Couples received $40 for completing this part of the study. Second, participants were asked to complete a 21-day daily diary task which assessed their use of social withdrawal, non-relational stress, relationship satisfaction, expressions of negativity within the relationship, and positive exchanges within the relationship each day. Participants were given the option of completing the diaries online or on paper and were instructed to complete one diary each night before going to bed. Individuals were paid $1 for each daily survey completed and were given a $14 bonus for completing all 21 surveys. Thus, each couple member could earn up to $35 for completing the diary task.[3]

Participants completed 18.7 (*SD* = 3.6) daily surveys on average, with 96.3% of participants providing at least 7 days of data. Married female participants provided more days of data (*M* = 19.4) than did dating female participants (*M* = 18.5; *t* (280) = 1.99, *p* = 0.047), however, no relationship type differences were found for men. Overall, participants provided a total of 10,519 daily surveys. As data were examined using multilevel modeling techniques, participants who did not provide all 21 days of data could be included in the analyses.

Background Questionnaire Measures

Age

Participants were asked to indicate their age when they completed the background questionnaire. As mentioned, older adults tend to report fewer negative behaviors within their relationship, as well as report greater relationship satisfaction. Thus, age was included as a

[3] Prior to completing the diary task, couples attended a lab session in which they engaged in a series of videotaped discussions about personal and relationship issues. These discussions are not relevant to the hypotheses presented in this paper.

covariate in the supplementary analyses to examine whether any significant results held when accounting for this variable.

Cohabitation

On the background questionnaire, participants were asked to indicate whether or not they were cohabitating with their partner. Given that cohabitating couples tend to be more interdependent than non-cohabiting couples, cohabitation was accounted for in the supplementary analyses to examine if any significant results remained when adjusting for this variable. A dichotomous variable was created to indicate whether or not the couple cohabitated (0 = no; 1 = yes).

Relationship status

Again, due to the aims of the broader study, couples were specifically recruited if they were in an established marriage of over 10 years or if they were in a newer, dating relationships of less than 3 years. A dichotomous variable was created to indicate the relationship status of the couple (0 = married couples; 1 = dating couples).

General relationship satisfaction

To assess general relationship quality, partners completed the 16-item Couples Satisfaction Index (Funk & Rogge, 2007) as part of the background questionnaire. Partners rated items such as "Our relationship is strong" on a seven-point scale (0 = "not at all true" and 6 = "completely true"). One item, however, was assessed on a six-point scale ("In general, how often do you think things between you and your partner are going well?"). Due to a technical glitch, 100 participants (17.7%) were not presented with the final six items of the scale, which assessed participants' feelings about the relationship using a semantic differential format (e.g., interesting - boring). Thus, to calculate participants' general relationship satisfaction, only responses for the

first 10 items of the measure were summed. Composite scores could range from 0-51, with higher scores indicating greater relationship satisfaction (α = .94 for men; α = .93 for women).

Children living in the home

Participants were asked to indicate if there were any children under the age of 18 living in the home with them. Because engaging in social withdrawal may put extra parenting-related stress on the partner while the stressed individual recuperates, children living in the home was included in the supplementary analyses to examine whether any significant results held when accounting for this variable. A dichotomous variable was created to indicate whether or not children lived in the home with the participant (0 = no; 1 = yes).

Daily Diary Measures

Daily stress

To assess participants' daily stress, the diary presented participants with a 15-item checklist including frequent hassles or stressors that may have occurred each day (0 = no, did not occur today; 1 = yes, occurred today). These 15 items (e.g., "Problems with transportation or traffic", "Received poor evaluation or negative feedback at work", "Disagreement or tension with children") were used to assess daily non-relational stress. A composite stress score was computed for each participant on each day by summing the number of stressors reported, with higher scores indicating greater stress.

Daily relationship behaviors

As part of the daily diary, participants were presented with a checklist of 13 behaviors they may have engaged in that day, as well as a corresponding checklist of 13 behaviors their partner may have engaged in each day. In addition, participants were presented with a list of 18

activities they may have engaged in with their partner each day. Items from these three checklists were used to assess the constructs of interest below.

Daily social withdrawal. Each day, participants were asked to indicate whether "you were withdrawn or distant from your partner" (0 = no; 1 = yes). This item comprised the measure of participants' daily social withdrawal.

Own daily negative relationship behaviors. Each day, participants reported whether they had enacted any of three negative behaviors toward their partner that day (0 = no; 1 = yes). Items included "you criticized or insulted your partner (even if you did not mean to)", "you showed anger or impatience toward your partner", and "you and your partner had a disagreement". Thus, consistent with prior work examining the role of social withdrawal for stress spillover (Repetti, 1989), this measure specifically focuses on individuals' active expressions of negativity within the relationship. Daily scores thus ranged from 0 to 3, with higher scores indicating greater negativity enacted toward a partner.

Perceptions of a partner's daily negative relationship behaviors. Each day, participants also reported whether their partner enacted any of those same three negative behaviors (e.g., "my partner showed anger or impatience toward me"). Again, daily scores ranged from 0 to 3, with higher scores indicating greater perceptions of negativity received from a partner.

Own daily positive relationship exchanges. Participants were also asked to report whether or not they had enacted or experienced any of seven positive exchanges with their partner that day (0 = no; 1 = yes). Because previous research on social withdrawal has examined both behavioral and emotional positivity, the items included here also encompass both affections shown toward the partner (emotional positivity) and shared activities with the partner (behavioral positivity). Items included "you showed an interest in the events of your partner's day", "you

provided your partner with encouragement", "you tried to make your partner feel loved", "you and your partner enjoyed a leisure activity together", "you laughed with your partner", "you and your partner spent quality time together", and "you and your partner shared a pleasant meal together". Daily scores thus ranged from 0 to 7, with higher scores indicating more positive exchanges with a partner.

Perceptions of a partner's daily positive relationship exchanges. Each day, participants also reported whether their partner engaged in any of those same seven positive exchanges (e.g., "your partner showed an interest in the events of your day"). Again, daily scores ranged from 0 to 7, with higher scores indicating more positive exchanges with a partner.

Daily relationship satisfaction

Daily satisfaction was assessed using three items from the Kansas Marital Satisfaction Scale (Schumm et al., 1986) which were modified for daily use. Participants responded to items such as "How satisfied were you with your relationship today?" using a 7-point scale (1 = *not at all* and 7 = *extremely*). An average score was created for each participant on each day, with higher scores indicating greater satisfaction.

DATA ANALYSES

Multilevel modeling analyses were conducted using Hierarchical Linear Modeling v. 7.03 (Raudenbush et al., 2013). Interdependence within couples was accounted for using procedures described by Laurenceau and Bolger (2005) for analyzing dyadic diary data. Specifically, male partners' and female partners' effects were estimated simultaneously for all analyses and dummy variables were used to nest male partner and female partner data within each couple. This approach allows for straightforward tests of gender differences in coefficients of interest (a 1-*df* χ^2 test). In cases where no significant gender differences were found, coefficients were then

constrained to be equal for male partners and female partners (see Barnett et al., 1993), and all results are presented pooled across gender. The significance test of such a constrained coefficient is more powerful than tests for gender-specific coefficients.

RESULTS

Descriptive Statistics and Correlations

Means and standard deviations for all variables are presented in Table 1. As seen in the table, couples were generally satisfied in their relationship. Across the three-week daily diary period, males reported engaging in social withdrawal on 5% of days, and females reported engaging in social withdrawal on 6% of days. Relatedly, 52.8% of males never engaged in social withdrawal across the diary period, and 48.2% of females never engaged in social withdrawal across the diary period. In terms of stressful events, males reported experiencing at least one stressful event on 67% of days, and females reported experiencing at least one stressful event on 68% of days.

On average, across the diary days, partners generally reported low levels of negative relationship behaviors. In terms of own daily negative behaviors, males reported enacting at least one negative relationship behavior toward their partner on 13% of days, and females reported enacting at least one negative relationship behavior toward their partner on 17% of days. For perceptions of partner's negative behaviors, males reported that their partner enacted at least one negative relationship behavior toward them on 15% of days, and females reported that their partner enacted at least one negative relationship behavior toward them on 14% of days. Switching to daily positive exchanges, males reported engaging in at least one positive relationship exchange with their partner on 84% of days, and females reported engaging in at least one positive relationship exchange with their partner on 87% of days. In terms of

perceptions of partner's positive exchanges, males reported that their partner engaged in at least one positive relationship exchange with them on 82% of days, and females reported that their partner engaged in at least one positive relationship exchange with them on 86% of days.

Table 2 presents the within-partner and between-partner correlations for all variables of interest. As expected, age was significantly positively associated with general relationship satisfaction for both males and females. Cohabitation was significantly negatively associated with average social withdrawal across the three-week period for females only. In addition, general relationship satisfaction was also significantly negatively associated with average social withdrawal for both males and females. Moreover, for males and females, children living in the home was significantly positively associated with average stress across the three-week period. These correlations highlight the importance of adjusting for age, cohabitation, general relationship satisfaction, and children living in the home in the analyses.

Turning to some of the correlations between the main variables of interest, as expected, average daily stress was significantly negatively associated with average daily relationship satisfaction for both males and females. For females only, average daily stress was significantly positively associated with both own daily negative relationship behaviors and perceptions of a partner's negative relationship behaviors. Notably, and consistent with the notion that individuals may withdraw from their partners when experiencing stress, average daily stress was significantly positively associated with average daily social withdrawal for both males and females.

Does Social Withdrawal Buffer the Association Between Stress and Negative Relationship Behaviors?

The first goal of this study was to examine whether individuals' social withdrawal moderated the association between individuals' daily non-relational stress and same-day

expressions of negativity within the relationship. The effects of an individual's daily stress and daily social withdrawal on their own reports of their negative behaviors and the effects of an individual's daily stress and daily social withdrawal on the partner's reports of individual's negative behaviors were estimated in separate models. Below, the model using individuals' reports of their own daily expressions of negativity as the outcome variable is presented; the model examining partners' perceptions of individuals' daily expressions of negativity as the outcome variable was identical.

Level 1: Individuals' Own Daily Expressions of Negativity = Female Partner (β_0 + β_1OwnDiaryDay + β_2OwnDailySocialWithdrawal + β_3OwnDailyStress +β_4OwnDailySocialWithdrawalXOwnDailyStress) + Male Partner (β_5 + β_6OwnDiaryDay + β_7OwnDailySocialWithdrawal + β_8OwnDailyStress +β_9OwnDailySocialWithdrawalXOwnDailyStress) + error

Level 2: β_0 = Female Partner (γ_{00} + γ_{01}OwnAverageSocialWithdrawal + γ_{02}OwnAverageStress) + r_0

β_1 thru β_4 = $\gamma_{10\text{-}40}$ + $r_{1\text{-}4}$

β_5 = Male Partner (γ_{50} + γ_{51}OwnAverageSocialWithdrawal + γ_{52}OwnAverageStress) + r_5

β_6 thru β_9 = $\gamma_{60\text{-}90}$ + $r_{6\text{-}9}$

[Model 1]

As seen in this model, the within-person level of the analysis (Level 1) estimated each individual's reports of their own daily expressions of negativity toward their partner (or partner's perceptions of individuals' daily expressions of negativity) as a function of individuals' own daily social withdrawal, daily stress, and the interaction of the two. Daily stress was centered within persons for each individual. Including diary day in the model adjusted for the possibility that factors such as habituation can influence how individuals complete daily surveys over time (Bolger et al., 2003). Each individual's average social withdrawal and average stress across the 21 diary days was included at the between-subjects level of the analysis (i.e., Level 2) in order to fully disentangle the within-person and between-person effects of social withdrawal and stress on

expressions of negativity. In other words, adjusting for these variables allowed me to examine the effect of daily social withdrawal and daily stress on daily expressions of negativity while taking into account the fact that some individuals generally reported greater levels of social withdrawal and stress than did others. All between-persons predictors (i.e., average reported social withdrawal and average reported stress) were grand mean centered. Lastly, the between-person equations for each coefficient included a random effect.

Starting with the results for the model examining individuals' reports of their own negative behavior, a main effect of stress emerged at the between-subjects level, suggesting that individuals who generally reported higher levels of stress enacted more negative behaviors toward their partner over the three-week period (see Table 3). The main effect of stress was also significant at the within-person level, such that on days when individuals reported higher levels of stress, they reported enacting more negative behaviors toward their partner. In addition, the main effect of social withdrawal was significant at the within-person level. More specifically, on days when individuals reported engaging in social withdrawal, they also reported enacting more negative behaviors toward their partner. Contrary to predictions, social withdrawal did not moderate the association between individuals' daily non-relational stress and their own reports of their same-day negative behaviors within the relationship.

The results from the model examining partner's report of individual's negative behaviors are presented in Table 4. There was a significant gender difference between both males' intercept and females' intercept (β_0 and β_5; $\chi^2(1) = 12.39$, $p < .001$) and males' diary day and females' diary day (β_1 and β_6; $\chi^2(1) = 4.61$, $p = .030$). Thus, the results are presented separately for males and females. In line with the findings examining individuals' reports of their own negative behaviors, a main effect of stress emerged at the between-subjects level for both males and females,

suggesting that individuals who generally reported higher levels of stress enacted more negative behaviors toward their partner over the diary period, according to their partners' perceptions. For males only, the main effect of social withdrawal at the between-subjects level was also significant, such that males who engaged in social withdrawal more often generally enacted more negative behaviors toward their partner, again according to the partners' perceptions; however, because the strength of the effect of social withdrawal at the between-subject level did not differ for males and females (γ_{01} and γ_{51}; $\chi^2(1) = 0.62$, $p > .500$), a true gender difference cannot be inferred. The main effects of both stress and social withdrawal were significant at the within-person level for males and females, such that on days when individuals experienced higher levels of stress, their partner reported that the individual enacted more negative behaviors that day. Similarly, on days when individuals engaged in social withdrawal, their partner reported that the individual enacted more negative behaviors toward them that day. Again, contrary to predictions, social withdrawal did not moderate the association between individuals' daily non-relational stress and the partner's reports of individual's same-day negative relationship behaviors. Overall, this pattern of results was largely inconsistent with the notion that withdrawing from a partner after a stressful day should limit stress spillover by reducing same-day expressions of negativity within the relationship.

Does Social Withdrawal Moderate the Association between Stress and Positive Relationship Exchanges?

The second goal of this study was to examine whether individuals' social withdrawal moderated the association between individuals' daily non-relational stress and same-day positive exchanges within the relationship. Similar to the previous analyses, the effect of an individual's daily stress and daily social withdrawal on their own reports of their positive exchanges and the effect of an individual's daily stress and daily social withdrawal on the partner's reports of

individual's positive exchanges were estimated in separate models. Below, the model using individuals' reports of their own daily positive exchanges as the outcome variable is presented; the model examining partners' perceptions of individuals' daily positive exchanges as the outcome variable was identical.

Level 1: Individuals' Own Daily Positive Exchanges = Female Partner (β_0 + β_1OwnDiaryDay + β_2OwnDailySocialWithdrawal + β_3OwnDailyStress +β_4OwnDailySocialWithdrawalXOwnDailyStress) + Male Partner (β_5 + β_6OwnDiaryDay + β_7OwnDailySocialWithdrawal + β_8OwnDailyStress +β_9OwnDailySocialWithdrawalXOwnDailyStress) + error

Level 2: β_0 = Female Partner (γ_{00} + γ_{01}OwnAverageSocialWithdrawal + γ_{02}OwnAverageStress) + r_0

β_1 thru β_4 = $\gamma_{10\text{-}40}$ + $r_{1\text{-}4}$

β_5 = Male Partner (γ_{50} + γ_{51}OwnAverageSocialWithdrawal + γ_{52}OwnAverageStress) + r_5

β_6 thru β_9 = $\gamma_{60\text{-}90}$ + $r_{6\text{-}9}$

[Model 2]

As seen in this model, the within-person level of the analysis (Level 1) estimated each individual's reports of their own daily positive exchanges with their partner (or partner's perceptions of individuals' daily positive exchanges) as a function of individuals' own daily social withdrawal, daily stress, and the interaction of the two. Daily stress was centered within persons for each individual. Including diary day in the model adjusted for the possibility that factors such as habituation can influence how individuals complete daily surveys over time (Bolger et al., 2003). Each individual's average social withdrawal and average stress across the 21 diary days was included at the between-subjects level of the analysis (i.e., Level 2) in order to fully disentangle the within-person and between-person effects of social withdrawal and stress on positive exchanges. In other words, adjusting for these variables allowed me to examine the effect of daily social withdrawal and daily stress on daily positive exchanges while taking into account the fact that some individuals generally reported greater levels of social withdrawal and

stress than did others. All between-persons predictors (i.e., average reported social withdrawal and average reported stress) were grand mean centered. Lastly, the between-person equations for each coefficient included a random effect.

When examining the results for the model using individuals' own reports of their positive exchanges as the outcome, a main effect of stress emerged at the between-subjects level, suggesting that individuals who generally reported higher levels of stress also engaged in more positive exchanges with their partner over the diary period (see Table 5). A significant main effect of social withdrawal also emerged at the between-subjects level, such that individuals who reported engaging in social withdrawal more often generally reported experiencing fewer positive exchanges in the relationship. At the within-person level, the main effects of stress and social withdrawal were again significant. Results suggested that on days when individuals reported higher levels of stress, they engaged in fewer positive exchanges with their partner that day. Similarly, on days when individuals engaged in social withdrawal, they once again reported experiencing fewer positive exchanges with their partner. These main effects, however, were qualified by a significant interaction between individuals' daily stress and daily social withdrawal (see Table 5). This moderation effect of social withdrawal was reduced to marginal significance when adjusting for age, cohabitation, children living in the home, and relationship satisfaction (see bottom half of Table 5).

The interaction of daily stress and social withdrawal was examined more closely with comparisons made at +/-1 *SD* from the mean (Aiken & West, 1991). As shown in Figure 1, the overall pattern of results was not entirely consistent with hypotheses. Simple slope analyses did reveal that on high stress days, individuals who engaged in social withdrawal reported fewer positive exchanges with their partner compared to individuals who did not engage in social

withdrawal (*b* = -1.03, *SE* = 0.09, *t*(281) = -11.08, *p* < 0.001 , 95% CI [-1.21, -0.85]; see dotted line); however, this same pattern also was found on low stress days (*b* = -1.24, *SE* = 0.12, *t*(281) = -10.44, *p* < 0.001 , 95% CI [-1.48, -1.00]; see solid line). Further, and contrary to predictions, simple slope analyses also indicated that the effect of daily stress on partners' positive relationship exchanges was significant when individuals did not engage in social withdrawal (*b* = -0.09, *SE* = 0.02, *t*(281) = -4.12, *p* < 0.001 , 95% CI [-0.13, -0.05]; see left side of graph), such that higher stress was associated with fewer positive relationship exchanges when individuals did not engage in social withdrawal, but was not significant when individuals engaged in social withdrawal (*b* = 0.02, *SE* = 0.06, *t*(281) = 0.37, *p* = 0.710 , 95% CI [-0.10, 0.14]; see right side of graph). In other words, the use of social withdrawal was associated with lower levels of positive relationship exchanges regardless of individual's stress levels.

Turning to the results for the model utilizing partners' reports of individuals' positive exchanges, a main effect of stress emerged at the between-subjects level (see Table 6). More specifically, this main effect suggested that, according to their partners' perceptions, individuals who generally reported higher levels of stress engaged in more positive exchanges with their partner over the three-week diary task. The main effect of social withdrawal at the between-subjects level was also significant, such that individuals who engaged in social withdrawal more often experienced fewer positive exchanges with their partner, according to partners' perceptions. The main effects of both stress and social withdrawal were significant at the within-person level as well. Results suggested that on days when individuals reported higher levels of stress, their partner reported that the individual engaged in fewer positive exchanges with them that day. Similarly, on days when individuals engaged in social withdrawal, their partners reported experiencing fewer positive exchanges with the individual that day. Contrary to

predictions, however, social withdrawal did not moderate the association between individuals' daily non-relational stress and partners' same-day perceptions of individuals' daily positive exchanges within the relationship.

In sum, while there was some evidence that social withdrawal moderates the association between own daily stress and own reports of same-day positive relationship exchanges, these results were largely inconsistent with the idea that social withdrawal should be especially likely to limit positive relationship exchanges on high stress days.

Does Social Withdrawal Buffer the Effect of Stress on Daily Relationship Satisfaction?

The third goal of this study was to examine whether individuals' social withdrawal moderated the association between individuals' daily non-relational stress and same-day relationship satisfaction for both couple members. In this case, actor effects (i.e., the effect of an individual's daily stress and daily social withdrawal on their own satisfaction) and partner effects (i.e., the effect of an individual's daily stress and daily social withdrawal on their partner's satisfaction) were estimated in the same model, which is described below.

Level 1: Daily Relationship Satisfaction = Female Partner (β_0 + β_1OwnDiaryDay + β_2OwnDailySocialWithdrawal + β_3PartnerDailySocialWithdrawal + β_4OwnDailyStress +β_5PartnerDailyStress + β_6OwnDailySocialWithdrawalXOwnDailyStress +β_7PartnerDailySocialWithdrawalXPartnerDailyStress) + Male Partner (β_8 + β_9OwnDiaryDay + β_{10}OwnDailySocialWithdrawal + β_{11}PartnerDailySocialWithdrawal + β_{12}OwnDailyStress +β_{13}PartnerDailyStress + β_{14}OwnDailySocialWithdrawalXOwnDailyStress +β_{15}PartnerDailySocialWithdrawalXPartnerDailyStress) + error

Level 2: β_0 = Female Partner (γ_{00} + γ_{01}OwnAverageSocialWithdrawal + γ_{02}OwnAverageStress + γ_{03}PartnerAverageSocialWithdrawal + γ_{04}PartnerAverageStress) + r_0

β_1 thru β_7 = $\gamma_{10\text{-}70}$ + $r_{1\text{-}7}$

β_8 = Male Partner (γ_{80} + γ_{81}OwnAverageSocialWithdrawal + γ_{82}OwnAverageStress + γ_{83}PartnerAverageSocialWithdrawal + γ_{84}PartnerAverageStress) + r_8

β_9 thru β_{15} = $\gamma_{90\text{-}150}$ + $r_{9\text{-}15}$

[Model 3]

As seen in this model, the within-couple level of the analysis (Level 1) estimated each participant's daily relationship satisfaction as a function of their own daily social withdrawal, daily stress, and the interaction of the two (i.e., to estimate actor effects) and their partner's daily social withdrawal, daily stress, and the interaction of the two (i.e., to estimate partner effects). Daily stress was centered within persons for each individual. Including diary day in the model adjusted for the possibility that factors such as habituation influence how individuals complete daily surveys over time (Bolger et al., 2003). Each individual's average social withdrawal and average stress across the 21 diary days was included at the between-subjects level of the analysis (i.e., Level 2) in order to fully disentangle the within-person and between-person effects of social withdrawal and stress on relationship satisfaction. In other words, adjusting for these variables allowed me to examine the effect of daily social withdrawal and daily stress on daily relationship satisfaction while taking into account the fact that some individuals generally report greater levels of social withdrawal and stress than do others. All between-persons predictors (i.e., average reported social withdrawal and average reported stress) were grand mean centered. Lastly, the between-person equations for each coefficient included a random effect.

At the between-subjects level, the main effect of social withdrawal was significant for actors only, such that individuals generally reported lower relationship satisfaction if they engaged in social withdrawal more often (see Table 7). In addition, the main effects of social withdrawal and stress were significant at the within-person level for both actors and partners. More specifically, on days when actors reported engaging in social withdrawal, both they and their partner also reported lower relationship satisfaction. Similarly, on days when actors reported higher levels of stress, both they and their partner reported lower relationship satisfaction. However, contrary to predictions, social withdrawal did not moderate the

association between individuals' daily non-relational stress and same-day relationship satisfaction for actors nor partners.

Overall, these results failed to support the notion that social withdrawal should aid individuals' recovery from stress and buffer the effect of stress on individuals' and partners' relationship satisfaction.

Ancillary Analyses: Does Relationship Status Moderate the Buffering Effect of Social Withdrawal?

The final goal of the study was to examine whether the strength of buffering effect of social withdrawal depended on couples' relationship status. Although the previous analyses did not reveal many significant moderating effects of social withdrawal in general, it remains possible that the predicted effects may only emerge for dating or married individuals. To explore this possibility, I conducted ancillary analyses to explore the potential three-way interaction between individuals' daily social withdrawal, individuals' daily stress, and relationship status on expressions of negativity, positive exchanges, or relationship satisfaction. To do this, the main effect of relationship status, all the appropriate two-way interactions, and the three-way interaction were included in the previous models.

Relationship status was not expected to moderate the buffering effect of social withdrawal on the association between individuals' stress and their own or their partner's reports of the negative relationship behaviors the individual enacted that day. In line with predictions, the three-way interaction between daily social withdrawal, daily stress, and relationship status was not significant when examining own or partner reports of individuals' negative relationship behaviors (see Tables 8 and 9).

Relationship status also was not predicted to moderate the buffering effect of social withdrawal on the association between individuals' stress and their own or their partner's reports

of the positive relationship exchanges the individual engaged in that day. However, when examining individuals' own reports of their positive relationship exchanges, the three-way interaction was significant for females, but not for males (test for gender difference: $\chi^2(1) = 14.42$, $p < .001$; see Table 10). In order to interpret this three-way interaction, the significance of the two-way interaction between daily social withdrawal and daily stress was examined for married couples and for dating couples. Given the coding of relationship status (0 = married, 1= dating), the results of this two-way interaction presented in Table 10 represents the significance for married couples. As seen in the table, this interaction was not significant for married females ($b = -0.10$, $SE = 0.08$, $t(280) = -1.25$, $p = 0.214$, 95% CI [-0.26, 0.06]), indicating that social withdrawal did not moderate the link between daily stress and own reports of positive exchanges for married females. To examine this interaction for dating females, relationship status was recoded (0 = dating, 1 = married) and the analysis was re-run. The two-way interaction was significant for dating females ($b = 0.59$, $SE = 0.14$, $t(280) = 4.17$, $p < .001$, 95% CI [0.32, 0.86]) and remained significant when adjusting for age, cohabitation, children living in the home, and relationship satisfaction ($b = 0.52$, $SE = 0.14$, $t(277) = 3.75$, $p < .001$, 95% CI [0.25, 0.79]).

The interaction of daily stress and daily social withdrawal for dating females was examined more closely with comparisons made at +/-1 *SD* from the mean (Aiken & West, 1991). As shown in Figure 2, the overall pattern of results did not support the hypotheses. Simple slope analyses did reveal that on high stress days, females in dating relationships who engaged in social withdrawal reported fewer positive exchanges with their partner compared to females in dating relationships who did not engage in social withdrawal on high stress days ($b = -0.46$, $SE = 0.21$, $t(281) = -2.23$, $p = 0.029$, 95% CI [-0.87, -0.05]; see dotted line). Notably, though, this same pattern was found on low stress days ($b = -1.30$, $SE = 0.26$, $t(281) = -4.95$, $p < 0.001$, 95%

CI [-1.81, -0.79]; see solid line). Further, and contrary to predictions, simple slope analyses also indicated that the effect of daily stress on female daters' own reports of their positive relationship exchanges was significant on days when they engaged in social withdrawal (b = 0.38, SE = 0.13, $t(281) = 2.81$, p = 0.006 , 95% CI [0.13, 0.63]; see right side of graph), such that higher stress was associated with more positive relationship exchanges when individuals engaged in social withdrawal. The opposite pattern emerged when examining the effect of daily stress on female daters' own reports of their positive exchanges on days when they did not engage in social withdrawal, such that higher stress was associated with fewer positive relationship exchanges when individuals did not engage in social withdrawal (b = -0.12, SE = 0.06, $t(278) = -2.05$, p = 0.043 , 95% CI [-0.23, -0.01]; see left side of graph). Thus, the results suggested that higher (vs. lower) stress was associated with more positive relationship exchanges when female daters withdrew from their partners.

When examining the model utilizing partners' reports of individuals' positive exchanges, results again revealed a significant three-way interaction for females, but not for males (test for gender difference: $\chi^2(1) = 6.03$, p = .013; see Table 11). Again, in order to interpret this three-way interaction, the significance of the two-way interaction between daily social withdrawal and daily stress was examined for married couples and for dating couples. As seen in in Table 11, although this two-way interaction between daily stress and daily social withdrawal was marginally significant for married females (b = -0.22, SE = 0.11, $t(280) = -1.96$, p = .051 , 95% CI [-0.44, -0.00]), it became nonsignificant after adjusting for age, cohabitation, children living in the home, and general relationship satisfaction (b = -0.16, SE = 0.11, $t(277) = -1.44$, p = .150 , 95% CI [-0.38, 0.06]). Thus, this interaction is not discussed further. However, the two-way interaction between daily social withdrawal and daily stress was significant for dating females (b

= 0.50, *SE* = 0.14, *t*(280) = 3.69, *p* < .001 , 95% CI [0.23, 0.77]), and it remained significant when adjusting for age, cohabitation, children living in the home, and relationship satisfaction (*b* = 0.48, *SE* = 0.14, *t*(277) = 3.34, *p* < .001 , 95% CI [0.21, 0.75]).

The interaction of daily stress and social withdrawal for dating females was examined more closely with comparisons made at +/-1 *SD* from the mean (Aiken & West, 1991). As shown in Figure 3, the overall pattern of results was similar to the pattern depicted in Figure 2, and thus was again unexpected. Simple slope analyses did reveal that on high stress days, females in dating relationships who engaged in social withdrawal had fewer positive exchanges with their partner (according to partners' perceptions) compared to females in dating relationships who did not engage in social withdrawal on high stress days (*b* = -0.61, *SE* = 0.21, *t*(281) = -2.89, *p* = 0.005 , 95% CI [-1.02, -0.20]; see dotted line). This same pattern was found on low stress days. Specifically, on low stress days, females in dating relationships who engaged in social withdrawal had fewer positive exchanges with their partner, according to partners' perceptions, compared to female daters who did not engage in social withdrawal on low stress days (*b* = -1.28, *SE* = 0.27, *t*(281) = -4.76, *p* < 0.001 , 95% CI [-1.81, -0.75]; see solid line). Further, and contrary to predictions, simple slope analyses also indicated that the effect of daily stress on female daters' positive relationship exchanges (as reported by their partner) was not significant when female daters engaged in social withdrawal (*b* = 0.24, *SE* = 0.15, *t*(281) = 1.61, *p* = 0.111 , 95% CI [-0.05, 0.53]; see right side of graph), but it was significant when they did not engage in social withdrawal (*b* = -0.14, *SE* = 0.06, *t*(278) = -2.45, *p* = 0.016 , 95% CI [-0.26, -0.02]; see left side of graph), such that higher stress was associated with fewer positive relationship exchanges when female daters did not engage in social withdrawal.

Finally, relationship status was not expected to moderate the buffering effect of social withdrawal on the association between individuals' daily stress and their own relationship satisfaction; however, it was predicted to moderate the association between individuals' daily stress and their partners' relationship satisfaction. In line with predictions, relationship status did not moderate the buffering effect of social withdrawal on the association between individuals' daily stress and their own relationship satisfaction (see Table 12). Contrary to predictions, however, relationship status also did not moderate the association between individuals' stress and their partners' relationship satisfaction. These results suggest that, in terms of their relationship satisfaction, partners in married and dating relationships were not differentially impacted by individuals' use of social withdrawal as a coping response.

SUMMARY OF STUDY 1

Although past work has suggested that social withdrawal may be a beneficial strategy for coping with stress, the current study was the first to directly examine whether social withdrawal may moderate the link between individuals' daily stress and both partners' daily relationship well-being. Notably, these results cast doubt as to whether social withdrawal effectively buffers stress spillover effects. Specifically, social withdrawal did not moderate the association between individuals' daily non-relational stress and (a) their same-day negative behaviors within the relationship or (b) same-day relationship satisfaction for individuals nor their partners. In other words, engaging in social withdrawal on high stress days did not seem to protect the relationship against the harmful effects of stress. The three-way interactions were also not significant when examining expressions of negativity or relationship satisfaction, suggesting that the effect of the interaction between individuals' daily stress and individuals' social withdrawal on (a)

individuals' expressions of negativity and (b) individuals' relationship satisfaction, and (c) partners' relationship satisfaction are no different for dating partners than married partners.

There was some evidence that social withdrawal moderates the association between daily stress and same-day positive relationship exchanges. Although the two-way interaction between daily stress and daily social withdrawal was significant, the three-way interaction between daily stress, daily social withdrawal, and relationship status suggested that this moderation was primarily driven by dating females. Contrary to expectations, results appeared to suggest that higher stress (vs. lower stress) may be associated with more positive relationship exchanges when female daters withdrew from their partners rather than fewer positive exchanges. Thus, evidence failed to confirm that engaging in social withdrawal on high stress days may be especially detrimental for couples' positive exchanges. Instead, and in line with some previous work in the parent-child literature suggesting that social withdrawal may limit the amount of emotional and behavioral positivity between parents and their children (Repetti, 1994; Repetti & Wood, 1997), social withdrawal, regardless of stress level was associated with fewer positive exchanges between partners.

Overall, then, the results of Study 1 raise important questions regarding whether social withdrawal is a beneficial coping strategy for stressed individuals or their partners, at least in the short-term. However, as it is difficult to draw strong conclusions from a single study, Study 2 provided the opportunity to test these ideas again in a new sample of couples.

Chapter 4: Study 2

This study aimed to replicate and extend the findings of Study 1 by examining both the short-term and long-term effects of social withdrawal in response to stress for relationship quality. Study 2 utilized data from a sample of 171 newlywed couples. Within the first six months of their marriage, newlywed couples completed an initial questionnaire packet, which included a measure of general marital satisfaction, and then participated in a 14-day daily diary task, which assessed participants' social withdrawal, non-relational stress, expressions of negative behaviors toward the partner, positive exchanges in the relationship, and relationship satisfaction each day. Notably, and in contrast to Study 1 in which individuals reported on their own tendency to withdraw each day, in this study, individuals only reported on their partner's tendency to withdraw each day. Following this initial assessment, participants also reported their general marital satisfaction every six months for the next 2.5 years; thus, participants provided information regarding their marital satisfaction a total of six times during the first three years of marriage. Analyses of these data addressed four key questions.

First, does daily social withdrawal moderate the link between individuals' daily stress and individuals' same-day expressions of negativity? Consistent with Study 1, it was expected that on days when individuals reported greater stress and engaged in social withdrawal (according to their partner), both they and their partner would report that the individual engaged in fewer expressions of negativity compared to days when individuals reported greater stress but did not engage in social withdrawal.

Second, does social withdrawal moderate the link between daily stress and same-day positive relationship exchanges? Following Study 1, it was expected that on days when individuals reported greater stress and engaged in social withdrawal (according to their partner),

both they and their partner would report fewer instances of positive exchanges within the relationship compared to days when individuals reported greater stress but did not engage in social withdrawal.

Third, does daily social withdrawal moderate the association between daily stress and same-day relationship satisfaction for the stressed individual and their partner? Again, consistent with Study 1, it was expected that on days when individuals experienced greater stress and engaged in social withdrawal (according to their partner), the negative link between their daily stress and their own daily relationship satisfaction would be reduced. The association between individuals' daily stress and partners' relationship satisfaction was also expected to be weakened on days in which the stressed individual engaged in social withdrawal, but this buffering effect was predicted to be weaker for the partner than for the individual.

Fourth, is individuals' tendency to use social withdrawal as a coping strategy for managing stress associated with changes in both couple member's relationship satisfaction over time? This question extended the findings from Study 1 by examining the long-term implications of social withdrawal. The tendency to use social withdrawal as a response to stress was estimated for each individual by modeling the within-person covariation between daily stress and daily social withdrawal during the diary period. Thus, a larger positive coefficient indicates a stronger likelihood of using social withdrawal on days of greater stress. This coefficient, and this term squared, were then used to predict the slope of satisfaction over time. On average, martial satisfaction tends to decline over the early years of marriage (Cherlin, 1996; VanLaningham et al., 2001). However, it was predicted that a curvilinear association would emerge between the tendency to use social withdrawal as a response to stress and the rate of decline in marital satisfaction over time. Specifically, a similar pattern was expected to emerge for both actors and

partners, such that both individuals and their partners would report steeper declines in their satisfaction when individuals have a low tendency or a high tendency to use this strategy.

Lastly, initial marital satisfaction was included as a covariate in the models examining the first three hypotheses (i.e., when examining the short-term consequences of social withdrawal) in order to ensure that any significant effects were not driven by differences in overall satisfaction.

METHOD

Participants

Newlywed couples (*N*=171) were recruited for a longitudinal study of marital development by placing advertisements in community newspapers, premarital counseling offices, local wedding vendors, and online websites (e.g., *Facebook*, *The Knot*). Data collection for the study began in January, 2010. All couples met the following eligibility requirements: a) first marriage for each partner b) married less than six months, and c) neither partner had children. As a primary goal of the broader study was to examine stress spillover in marriage, sample size was determined through a power analysis for detecting these effects, coupled with funding constraints. As the primary variables of interest were assessed as part of the daily diary task, the current study utilized data from the 165 couples who participated in the diary portion of the study described below.

On average, husbands were 29.0 (*SD* = 5.2) years old and wives were 27.0 (*SD* = 4.7) years old. Seventy-six percent of husbands identified as White, 16.4% as Hispanic/Latino, 2.4% as African American, 1.8% as Asian American, and 3.6% as other. Seventy-four percent of wives identified as White, 15.8% as Hispanic/Latina, 3.6% as African American, 2.4% as Asian American, and 4.2% as other. In terms of the highest educational degree for husbands, 29.1% reported having a high school diploma, 9.7% reported an Associate's/vocational degree, 47.9%

reported a Bachelor's degree, 9.7% reported a Master's degree and 2.4% reported a PhD, MD, or DDS, etc. (data was missing for 1.2% of husbands). For wives' educational attainment, 17.0% reported a high school diploma, 9.1% reported an Associate's/vocational degree, 58.2% reported a Bachelor's degree, 13.9% reported a Master's degree, and 1.8% reported a PhD, MD, DDS, etc. Seventy-six percent of husbands and 67.9% of wives were employed full time. Fourteen percent of husbands and 13.3% of wives reported they were currently in school full time, while 9.7% of husbands and 12.7% of wives reported they were currently in school part time. The median combined income of couples was approximately $60,000.

Procedure

Within the first six months of their marriage, spouses were asked to complete three tasks. First, spouses completed an initial questionnaire packet that included an assessment of spouses' general marital satisfaction. Next, spouses attended an on-campus session in which they engaged in a series of videotaped interactions regarding personal and marital issues; however, these discussions are not relevant to the current hypotheses. Couples were paid $75 USD for completing these first two tasks. Finally, after the lab session, couples were asked to complete a 14-day daily diary task which assessed spouses' social withdrawal, non-relational stress, marital satisfaction, expressions of negativity within the relationship, and positive exchanges within the relationship each day. Spouses were given the option of completing the diaries online or on paper. Spouses who chose the online option were given a participant identification number in order to logon to a website every evening to complete their diaries. If spouses chose to complete the daily diaries on paper, they were given all 14 days of the paper diaries along with a set of pre-stamped envelopes. They were instructed to complete one diary each night before going to

bed and to send the diary in the mail the next morning. Couples were paid $30 for completing this diary task.

After this initial wave of data collection, spouses were asked to participate in five additional follow-up assessments, which occurred at six-month intervals. Thus, spouses provided data every six months over a three-year period, for a total of six waves of data collection. At each of these follow-up assessments, spouses were asked to complete a questionnaire packet similar to the packet they completed at the first wave of data collection. Couples received $50 each time they completed this packet.[4]

Of the initial 171 couples who enrolled in the study, 165 couples (96%) participated in the daily diary portion of the study and thus will be included in the analyses. Spouses who did not provide any diary data did not differ from the rest of the sample in their initial general marital satisfaction (t (169) = .41, p = .68 for husbands; t (169) = .17, p = .87 for wives). Most spouses (73%) chose to complete the surveys online. These spouses did not differ from those who completed the surveys on paper in the number of diary days provided (t (163) = 1.49, p = .14 for husbands; t (163) = 1.01, p = .32 for wives). Overall, 80% (129 husbands, 133 wives) of spouses completed all 14 nights of the daily diary and 99% (160 husbands, 163 wives) of spouses completed at least 3 days of diary data. In sum, spouses provided a total of 4,318 daily surveys (2,144 husbands, 2,174 wives).

Of the 165 couples who completed the initial diary task, 16 couples divorced or separated during the course of the study. At the last wave of data collection (i.e. Wave 6), 125 couples, or

[4] At Waves 3 and 5 of data collection, couples were also asked to attend a lab session and complete a 14-day diary task in addition to completing the questionnaire packet. However, as the goal of this study was to examine whether the use of social withdrawal in response to stress predicts the trajectory of marital satisfaction over time, data from these additional diary tasks were not used in this study.

84% of those couples who were still married, provided information regarding their marital satisfaction (i.e., the key variable of interest). Spouses who were still married, yet failed to provide information on their marital satisfaction at the last wave of data collection did not differ from spouses who provided this information in terms of their initial marital satisfaction (t (133) = .18, p = .86 for husbands; t (133) = -.36, p = .86 for wives). Notably, as data will be analyzed using multilevel modeling techniques, spouses who did not provide all six waves of marital satisfaction data can be included in the analyses.

Questionnaire Packet Measures

General relationship satisfaction

Individuals completed a slightly adapted version of the 16-item Couples Satisfaction Index (Funk & Rogge, 2007) at all six waves of data collection. Partners rated items such as "Our marriage is strong" on a seven-point scale (0 = "not at all true" and 6 = "completely true"). One item, however, was assessed on a six-point scale ("In general, how often do you think things between you and your partner are going well?"). Composite scores could range from 0-95, with higher scores indicating greater relationship satisfaction (α = .95 – .98 for husbands across the waves; α = .94 – .98 for wives across the waves).

Daily Diary Measures

Daily stress

To assess individuals' daily stress, the diary presented participants with a 9-item checklist including frequent hassles or stressors that may have occurred each day (0 = no, did not occur today; 1 = yes, occurred today). These 9 items (e.g., "Problems with transportation", "Received poor evaluation or feedback at work or at school", "A lot of household chores") were used to asses daily non-relational stress. A composite stress score was computed for each individual on

each day by summing the number of stressors reported, with higher scores indicating greater non-relational stress.

Daily relationship behaviors

As part of the daily diary, individuals were presented with a checklist of 13 behaviors they may have engaged in that day, as well as a corresponding checklist of 8 behaviors their partner may have engaged in each day. Items from these two checklists were used to assess the constructs of interest below.

***Daily social withdrawal*.** Each day, individuals were asked to indicate whether their "spouse withdrew from a conversation" (0 = no; 1 = yes). Thus, in contrast to Study 1, social withdrawal in this study was assessed from the partner's perspective instead of the stressed individual's perspective.

***Own daily negative relationship behaviors*.** Each day, individuals reported on whether or not they had enacted any of three negative behaviors toward their partner that day (0 = no; 1 = yes). Similar to Study 1, these items included "you had an argument with spouse", "you showed anger or impatience toward your spouse", and "you criticized/blamed your spouse". Again, consistent with prior work examining the role of social withdrawal for stress spillover (Repetti, 1989), this measure specifically focused on individuals' active expressions of negativity within the relationship. Daily scores thus ranged from 0 to 3, with higher scores indicating greater negativity enacted toward a partner.

Perceptions of a partner's daily negative behaviors. Each day, individuals also reported on whether or not their partner enacted any of those same three negative behaviors (e.g., "spouse showed anger or impatience toward you"). Again, daily scores ranged from 0 to 3, with higher scores indicating greater perceptions of negativity from a partner.

Own daily positive exchanges. Participants were also asked to report whether or not they had engaged in any of three positive exchanges with their partner that day (0 = no; 1 = yes). Items included "you showed an interest in the events of your spouse's day", "you tried to make your spouse feel loved", and "you enjoyed a leisure activity with spouse". Daily scores thus ranged from 0 to 3, with higher scores indicating more positive exchanges with a partner.

Perceptions of a partner's daily positive exchanges. Each day, participants also reported whether their partner engaged in any of those same three positive exchanges (e.g., "spouse showed an interest in the events of your day"). Again, daily scores ranged from 0 to 3, with higher scores indicating more positive exchanges with a partner.

Daily relationship satisfaction

Daily satisfaction was assessed using three items from the Kansas Marital Satisfaction Scale (Schumm et al., 1986) which were modified for daily use. Participants responded to items such as "How satisfied were you with your marriage today?" using a 7-point scale (1 = *not at all satisfied* and 7 = *extremely satisfied*). An average score was created for each individual on each day, with higher scores indicating greater satisfaction.

RESULTS

Descriptive Statistics and Correlations

Means and standard deviations for all variables are presented in Table 13. As expected, these newlywed couples were generally satisfied in their relationship. Across the two-week daily diary period, both husbands and wives reported engaging in social withdrawal on 7% of days. In addition, 50.9% of husbands never engaged in social withdrawal across the diary period, and 49.7% of wives never engaged in social withdrawal across the diary period. Husbands reported

experiencing at least one stressful event on 44% of days, and wives reported experiencing at least one stressful event on 52% of days.

On average, across the diary days, spouses generally reported low levels of negative relationship behaviors. In terms of own daily negative behaviors, husbands reported enacting at least one negative relationship behavior toward their partner on 17% of days, and wives reported enacting at least one negative relationship behavior toward their partner on 20% of days. For perceptions of partner's negative behaviors, husbands reported that their partner enacted at least one negative relationship behavior toward them on 22% of days, and wives reported that their partner enacted at least one negative relationship behavior toward them on 18% of days. Switching to daily positive exchanges, husbands reported engaging in at least one positive relationship exchange with their partner on 79% of days, and wives reported engaging in at least one positive relationship exchange with their partner on 80% of days. In terms of perceptions of partner's positive exchanges, husbands reported that their partner engaged in at least one positive relationship exchange with them on 79% of days, and wives reported that their partner engaged in at least one positive relationship exchange with them on 80% of days.

Table 14 presents the within-spouse and within-couple correlations for all variables of interest. For both husbands and wives, initial general relationship satisfaction was significantly negatively associated with average social withdrawal across the two-week period, which highlights the importance of adjusting for initial relationship satisfaction in the analyses. Regarding the correlations between the main variables of interest, for both spouses, average daily stress was significantly positively associated with both own daily negative relationship behaviors and perceptions of a partner's negative relationship behaviors. In line with the notion that individuals may withdrawal from their partners when under stress, average daily stress was

significantly positively associated with average daily social withdrawal for both husbands and wives.

Does Social Withdrawal Buffer the Short-term Effects of Stress on Negative Relationship Behaviors?

As in Study 1, the first goal of Study 2 was to examine whether social withdrawal moderated the association between individuals' daily non-relational stress and same-day expressions of negativity within the relationship. The effects of an individual's daily stress and daily social withdrawal on their own reports of their negative behaviors and the effect of an individual's daily stress and daily social withdrawal on the partner's reports of individual's negative behaviors were estimated in separate models. Below, the model using individuals' reports of their own daily expressions of negativity as the outcome variable is presented; the model examining partners' perceptions of individuals' daily expressions of negativity as the outcome variable was identical.

Level 1: Individuals' Own Daily Expressions of Negativity = Wife (β_0 + β_1Individuals'DiaryDay + β_2Individuals'DailySocialWithdrawal + β_3Individuals'DailyStress +β_4Individuals'DailySocialWithdrawalXIndividuals'DailyStress) + Husband (β_5 + β_6Individuals'DiaryDay + β_7Individuals'DailySocialWithdrawal + β_8Individuals'DailyStress +β_9Individuals'DailySocialWithdrawalXIndividuals'DailyStress) + error

Level 2: β_0 = Wife (γ_{00} + γ_{01}AverageSocialWithdrawal + γ_{02}AverageStress) + r_0
β_1 thru β_4 = $\gamma_{10\text{-}40}$ + $r_{1\text{-}4}$
β_5 = Husband (γ_{50} + γ_{51}AverageSocialWithdrawal + γ_{52}AverageStress) + r_5
β_6 thru β_9 = $\gamma_{60\text{-}90}$ + $r_{6\text{-}9}$

[Model 4]

As seen in this model, the within-person level of the analysis (Level 1) estimated each individual's reports of their own daily expressions of negativity toward their partner (or partner's perceptions of individual's daily expressions of negativity) as a function of the individual's daily

social withdrawal (reported by the partner), daily stress, and the interaction of the two. Daily stress was centered within persons for each individual. Including diary day in the model adjusted for the possibility that factors such as habituation can influence how partners complete daily surveys over time (Bolger et al., 2003). Each individual's average social withdrawal and average stress across the 14 diary days was included at the between-subjects level of the analysis (i.e., Level 2) in order to fully disentangle the within-person and between-person effects of social withdrawal and stress on expressions of negativity. In other words, adjusting for these variables allowed me to examine the effect of daily social withdrawal and daily stress on daily expressions of negativity while taking into account the fact that some individuals generally engage in greater levels of social withdrawal and experience more stress than do others. All between-persons predictors (i.e., average reported social withdrawal and average reported stress) were grand mean centered. Lastly, the between-person equations for each coefficient included a random effect.

Starting with the results for the model using individuals' reports of their own negative behavior, a main effect of stress emerged at the within-subjects level, such that on days when individuals reported higher levels of stress, they reported enacting more negative behaviors toward their partner (see Table 15). In addition, the main effect of social withdrawal was significant at the within-person level. More specifically, on days when individuals reported engaging in social withdrawal, they also reported enacting more negative behaviors toward their partner. However, contrary to predictions, social withdrawal did not moderate the association between individuals' daily non-relational stress and their own reports of their same-day negative behaviors within the relationship.

With regards to the results utilizing partners' reports of individuals' negative behaviors, a significant main effect of social withdrawal emerged at the between-subjects level (see Table

16). Specifically, individuals who engaged in social withdrawal more often were perceived by their partners as generally engaging in more negative behaviors in the relationship. At the within-person level, the main effect of stress was significant as well, such that on days when individuals reported higher levels of stress, their partner reported that the individual enacted more negative behaviors that day. Similarly, the main effect of social withdrawal was also significant at the within-person level, suggesting that on days when individuals engaged in social withdrawal, their partners reported that the individual enacted more negative behaviors toward them that day. Again, contrary to predictions, social withdrawal did not moderate the association between individuals' daily non-relational stress and the partner's reports of individual's same-day negative relationship behaviors. Overall, this pattern of results was again inconsistent with the notion that withdrawing from a partner after a stressful day should limit stress spillover by reducing same-day expressions of negativity within the relationship.

Does Social Withdrawal Moderate the Association between Stress and Positive Relationship Exchanges?

The second goal of this study was to examine whether individuals' social withdrawal moderated the association between individuals' daily non-relational stress and same-day exchanges of positivity within the relationship. Similar to the previous analyses, the effect of an individual's daily stress and daily social withdrawal on their own reports of their positive exchanges and the effect of an individual's daily stress and daily social withdrawal on the partner's reports of individual's positive exchanges were estimated in separate models. Below, the model using individuals' reports of their own daily positive exchanges as the outcome variable is presented; the model examining partners' perceptions of individuals' daily positive exchanges as the outcome variable was identical.

Level 1: Individuals' Own Daily Positive Exchanges = Female Partner (β_0 + β_1OwnDiaryDay + β_2OwnDailySocialWithdrawal + β_3OwnDailyStress +β_4OwnDailySocialWithdrawalXOwnDailyStress) + Male Partner (β_5 + β_6OwnDiaryDay + β_7OwnDailySocialWithdrawal + β_8OwnDailyStress +β_9OwnDailySocialWithdrawalXOwnDailyStress) + error

Level 2: β_0 = Female Partner (γ_{00} + γ_{01}OwnAverageSocialWithdrawal + γ_{02}OwnAverageStress) + r_0

β_1 thru β_4 = $\gamma_{10\text{-}40}$ + $r_{1\text{-}4}$

β_5 = Male Partner (γ_{50} + γ_{51}OwnAverageSocialWithdrawal + γ_{52}OwnAverageStress) + r_5

β_6 thru β_9 = $\gamma_{60\text{-}90}$ + $r_{6\text{-}9}$

[Model 5]

As seen in this model, the within-person level of the analysis (Level 1) estimated each individual's reports of their own daily positive exchanges with their partner (or partner's perceptions of individuals' daily positive exchanges) as a function of individuals' own daily social withdrawal, daily stress, and the interaction of the two. Daily stress was centered within persons for each individual. Including diary day in the model adjusted for the possibility that factors such as habituation can influence how individuals complete daily surveys over time (Bolger et al., 2003). Each individual's average social withdrawal and average stress across the 21 diary days was included at the between-subjects level of the analysis (i.e., Level 2) in order to fully disentangle the within-person and between-person effects of social withdrawal and stress on exchanges of positivity. In other words, adjusting for these variables allowed me to examine the effect of daily social withdrawal and daily stress on daily positive exchanges while taking into account the fact that some individuals generally reported greater levels of social withdrawal and stress than did others. All between-persons predictors (i.e., average reported social withdrawal and average reported stress) were grand mean centered. Lastly, the between-person equations for each coefficient included a random effect.

When examining the results from the model using individuals' own reports of their positive exchanges as the outcome, the main effects of stress and social withdrawal emerged at the within-subject level. Results suggested that on days when individuals reported higher levels of stress, they engaged in fewer positive exchanges with their partner that day (see Table 17). Similarly, on days when individuals engaged in social withdrawal, they once again reported engaging in fewer positive exchanges with their partner. However, contrary to predictions, social withdrawal did not moderate the association between individuals' daily non-relational stress and their own reports of their same-day positive exchanges within the relationship.

Turning to the results utilizing partners' reports of individuals' positive exchanges, a main effect of stress emerged at the within-subjects level (see Table 18). More specifically, this main effect suggested that on days when individuals reported higher levels of stress, their partner reported that the individual engaged in fewer positive exchanges with them that day. In addition, the main effect of social withdrawal at the within-subjects level was also significant, such that on days when individuals engaged in social withdrawal, their partners reported that the individual engaged in fewer positive exchanges with them that day. Contrary to predictions, however, social withdrawal did not moderate the association between individuals' daily non-relational stress and partners' same-day perceptions of individuals' daily positive exchanges within the relationship.

Does Social Withdrawal Buffer the Short-term Effects of Stress on Daily Relationship Satisfaction?

Finally, I examined whether individuals' social withdrawal moderated the association between individuals' daily non-relational stress and same-day relationship satisfaction for both couple members. Actor effects (i.e., the effect of an individual's daily stress and daily social withdrawal on their own satisfaction) and partner effects (i.e., the effect of an individual's daily

stress and daily social withdrawal on their partner's satisfaction) were estimated in the same model, which is described below.

Level 1: Daily Relationship Satisfaction = Wife (β_0 + β_1Individuals'DiaryDay + β_2Individuals'DailySocialWithdrawal + β_3Partners'DailySocialWithdrawal + β_4Individuals'DailyStress +β_5Partners'DailyStress + β_6Individuals'DailySocialWithdrawalXIndividuals'DailyStress +β_7Partners'DailySocialWithdrawalXPartners'DailyStress) + Husband (β_8 + β_9Individuals'DiaryDay + β_{10}Individuals'DailySocialWithdrawal + β_{11}Partners'DailySocialWithdrawal + β_{12}Individuals'DailyStress +β_{13}Partners'DailyStress + β_{14}Individuals'DailySocialWithdrawalXIndividuals'DailyStress +β_{15}Partners'DailySocialWithdrawalXPartners'DailyStress) + error

Level 2: β_0 = Wife (γ_{00} + γ_{01}Individuals'AverageSocialWithdrawal + γ_{02}Individuals'AverageStress + γ_{03}Partners'AverageSocialWithdrawal + γ_{04}Partners'AverageStress) + r_0

β_1 thru β_7 = $\gamma_{10\text{-}70}$ + $r_{1\text{-}7}$

β_8 = Husband (γ_{80} + γ_{81}Individuals'AverageSocialWithdrawal + γ_{82}Individuals'AverageStress + γ_{83}Partners'AverageSocialWithdrawal + γ_{84}Partners'AverageStress) + r_8

β_9 thru β_{15} = $\gamma_{90\text{-}150}$ + $r_{9\text{-}15}$

[Model 6]

As seen in this model, the within-couple level of the analysis (Level 1) estimated each participant's daily relationship satisfaction as a function of their own daily social withdrawal, daily stress, and the interaction of the two (i.e., to estimate actor effects) and their partner's daily social withdrawal, daily stress, and the interaction of the two (i.e., to estimate partner effects). Daily stress was centered within persons for each individual. Including diary day in the model adjusted for the possibility that factors such as habituation can influence how individuals complete daily surveys over time (Bolger et al., 2003). Each individual's average social withdrawal and average stress across the 14 diary days was included at the between-subjects level of the analysis (i.e., Level 2) in order to fully disentangle the within-person and between-person effects of social withdrawal and stress on relationship satisfaction. In other words, adjusting for these variables allowed me to examine the effect of daily social withdrawal and

daily stress on daily relationship satisfaction while taking into account the fact that some individuals may generally report greater levels of social withdrawal and stress than do others. All between-persons predictors (i.e., average reported social withdrawal and average reported stress) were grand mean centered. Lastly, the between-person equations for each coefficient included a random effect.

At the between-subjects level, the main effect of social withdrawal was significant for both actors and partners (see Table 19). Results suggested that both individuals and their partners generally reported lower relationship satisfaction if the individual engaged in social withdrawal more often. In addition, the main effects of social withdrawal and stress were significant at the within-person level for both actors and partners. More specifically, on days when actors reported engaging in social withdrawal, both they and their partner also reported lower relationship satisfaction. Moreover, on days when actors reported higher levels of stress, both they and their partner reported lower relationship satisfaction. However, contrary to predictions, social withdrawal did not moderate the association between individuals' daily non-relational stress and same-day relationship satisfaction for actors nor partners.

In sum, and in line with the findings from Study 1, these results failed to support the notion that social withdrawal should aid individuals' recovery from stress and buffer the effect of stress on individuals' and partners' relationship satisfaction in the short-term.

Is the Tendency to Utilize Social Withdrawal as a Coping Strategy Associated with Changes in Marital Satisfaction Over Time?

The last goal of Study 2 was to examine the long-term implications of engaging in social withdrawal in response to stress for changes in marital satisfaction over time. A curvilinear association between the tendency to use social withdrawal as a way to cope with stress and rate of decline in marital satisfaction over the early years of marriage was expected, such that low

and high levels of this tendency would be associated with steeper declines compared to moderate levels (i.e., an inverted U-shaped curve). In order to address this question, I first estimated individuals' tendency to use social withdrawal on high stress days by estimating the within-person covariation between daily stress and daily social withdrawal for each individual using the following model.

Level 1: Daily Social Withdrawal = Wife ($\beta_0 + \beta_1$OwnDiaryDay + β_2OwnDailyStress) +
Husband ($\beta_3 + \beta_4$OwnDiaryDay + β_5OwnDailyStress) + error

Level 2: β_0 = Wife ($\gamma_{00} + \gamma_{01}$OwnAverageStress) + r_0
β_1 thru $\beta_2 = \gamma_{10\text{-}20} + r_{1\text{-}2}$
β_3 = Husband ($\gamma_{30} + \gamma_{31}$OwnAverageStress) + r_3
β_4 thru $\beta_5 = \gamma_{40\text{-}50} + r_{4\text{-}5}$

[Model 7]

As seen in this model, the within-person level of the analysis (Level 1) estimated each individual's social withdrawal as a function of their own daily stress. Daily stress was centered within persons for each individual. Including diary day in the model adjusted for the possibility that factors such as habituation can influence how individuals complete daily surveys over time (Bolger et al., 2003). Each individual's average stress across the 14 diary days was included at the between-subjects level of the analysis (i.e., Level 2) in order to fully disentangle the within-person and between-person effects of stress on social withdrawal. In other words, adjusting for these variables allowed me to examine the effect of daily stress on daily social withdrawal while taking into account the fact that some individuals generally reported greater levels of stress than others. Average reported stress was grand mean centered, and the between-person equations for each coefficient included a random effect.

In this preliminary analysis, the main effect of stress was significant at the within-subjects level. Specifically, for both males and females, results suggested that on days when

individuals reported higher levels of stress, they were more likely to engage in social withdrawal (as reported by the partner; $b = 0.04$, $SE = 0.01$, $t(160) = 3.73$, $p < .001$, 95% CI [0.02, 0.06] for males; $b = 0.02$, $SE = 0.01$, $t(160) = 2.35$, $p = 0.020$, 95% CI [0.01, 0.04] for females).

In the above model, β_2 and β_5 capture the tendency to use social withdrawal on high stress days. Thus, for the primary analyses of interest, this coefficient (i.e., social withdrawal tendency) was exported from the HLM analysis for each participant in the sample. This coefficient, as well as this term squared, were then included as predictor variables in a model estimating individuals' slope of marital satisfaction over the early years of marriage. Actor effects (i.e., the effect of an individual's social withdrawal tendency on their own satisfaction) and partner effects (i.e., the effect of an individual's social withdrawal tendency on their partner's satisfaction) were estimated in the same model, as detailed below.

Level 1: Marital Satisfaction = Wife ($\beta_0 + \beta_1$Time) + Husband ($\beta_2 + \beta_3$Time) + error

Level 2: β_0 = Wife (γ_{00} + γ_{01}Individuals'SocialWithdrawalTendency + γ_{02}Individuals'SocialWithdrawalTendency^2 + γ_{03}Partners'SocialWithdrawalTendency + γ_{04}Partners'SocialWithdrawalTendency^2) + r_0

β_1 = Wife (γ_{10} + γ_{11}Individuals'SocialWithdrawalTendency + γ_{12}Individuals'SocialWithdrawalTendency^2 + γ_{13}Partners'SocialWithdrawalTendency + γ_{14}Partners'SocialWithdrawalTendency^2) + r_1

β_2 = Husband (γ_{20} + γ_{21}Individuals'SocialWithdrawalTendency + γ_{22}Individuals'SocialWithdrawalTendency^2 + γ_{23}Partners'SocialWithdrawalTendency + γ_{24}Partners'SocialWithdrawalTendency^2) + r_2

β_3 = Husband (γ_{30} + γ_{31}Individuals'SocialWithdrawalTendency + γ_{32}Individuals'SocialWithdrawalTendency^2 + γ_{33}Partners'SocialWithdrawalTendency + γ_{34}Partners'SocialWithdrawalTendency^2) + r_3

[Model 8]

As seen in this model, the within-person level of the analysis (Level 1) estimated each individual's marital satisfaction as a function of the intercept and slope (i.e., time). Each

individual's tendency to engage in social withdrawal on days of greater stress, as well as this term squared, were included at the between-subjects level of the analysis (Level 2) to predict both the intercept and slope of marital satisfaction. All between-persons predictors were grand mean centered. Lastly, the between-person equations for each coefficient included a random effect.

Though not the main focus of this analysis, the association between partners' social withdrawal tendency and the intercept of marital satisfaction emerged as significant (see Table 20). Specifically, if individuals exhibited a stronger tendency to withdrawal on days of greater stress, their spouses reported higher initial marital satisfaction. However, this linear effect was qualified by a significant quadratic effect. As seen in Figure 4, the overall pattern suggests that the positive association between individuals' tendency to withdrawal on high stress days and their spouses' levels of initial satisfaction may level off at as individuals' tendency to withdrawal increases from moderate to high.

Turning to the results for the slope of marital satisfaction, neither individuals' own, nor their partner's, tendency to withdrawal on days of greater stress was significantly associated with the slope of their (or their partner's) marital satisfaction over time. Similarly, and contrary to predictions, the curvilinear association between the tendency to use social withdrawal as a coping strategy and the slope of marital satisfaction over time was not significant when examining actor effects. However, when examining partner effects, the curvilinear association between individuals' tendency to use social withdrawal and the slope of their spouses' marital satisfaction over time was significant (see Figure 5). Contrary to predictions, the overall pattern resembled a U-shaped curve. Specifically, as individuals' tendency to withdrawal on high stress days increased from low to moderate, their spouses reported greater declines in marital

satisfaction over time. However, as individuals' tendency to withdrawal on high stress days increased from moderate to high, their spouses experienced less steep declines in marital satisfaction over time. Overall, these results reveal that frequently engaging in social withdrawal to cope with high levels of stress may initially be beneficial for partners' marital satisfaction. Over time, however, partners' relationship satisfaction remained more stable when stressed individuals had a low tendency to engage in this strategy. Unexpectedly, however, results also seemed to indicate that a moderate use of this strategy may be more detrimental for partner's relationship satisfaction over time compared to a high use of this strategy.

SUMMARY OF STUDY 2

Consistent with Study 1, the results of Study 2 failed to support notion that social withdrawal is a beneficial coping strategy in the short-term. Specifically, social withdrawal did not moderate the association between individuals' daily non-relational stress and (a) their same-day negative behaviors within the relationship, (b) their same-day positive exchanges within the relationship, or (c) same-day relationship satisfaction for individuals nor their partners. These results suggest that social withdrawal may not reduce same-day expressions of negativity or protect spouses' daily relationship satisfaction from the harmful effects of stress. In fact, the main effects of social withdrawal suggest that on days when individuals engage in social withdrawal, they experience more negative relationship behaviors, fewer positive exchanges with their partner, and report reductions in their daily relationship satisfaction. In other words, although previous research has theorized that social withdrawal may be adaptive on high stress days (e.g., Repetti, 1989), the results of the current study suggest that, on a daily basis, social withdrawal may not be as protective as previous research has argued.

The second goal of Study 2 was to examine the long-term effects of engaging in social withdrawal on high stress days for relationship well-being. Again, results were generally contrary to hypotheses. Spouses of stressed individuals reported higher initial marital satisfaction when stressed individuals exhibited a higher tendency to engage in social withdrawal on high stress days, suggesting that this coping tactic is most beneficial to their partners (at least initially) when individuals engage in it more often. However, the curvilinear association between individuals' tendency to use social withdrawal and the slope of their spouses' marital satisfaction over time was also significant, and the pattern was unexpected. Namely, if individuals exhibited a moderate tendency to engage in social withdrawal on high stress days, their partners experienced steeper declines in their marital satisfaction over time than if individuals exhibited either a high or low tendency to withdrawal on high stress days. Taken together, these results reveal that frequently engaging in social withdrawal on high stress days at the beginning of marriage might help to protect partners' concurrent marital satisfaction from the harmful effects of stress; however, utilizing this strategy at a low frequency may be most beneficial for partner's marital satisfaction over time.

Chapter 5: General Discussion

Within the stress spillover literature, it has been theorized that engaging in social withdrawal on high stress days may be an adaptive coping strategy that protects relationship well-being from the harmful effects of stress (Repetti, 1989). Namely, if individuals refrain from engaging in social interactions with their partner and take time to recharge after a stressful day, expressions of negativity between partners may be limited and, as a result, stress spillover effects may be reduced (Repetti, 1989; Repetti, 1994; Repetti & Wood, 1997). Yet, although prior research provides some indirect evidence suggesting that social withdrawal may be a useful coping tactic, to date, this research has not directly examined whether social withdrawal actually buffers the link between daily stress and same-day relationship outcomes. Moreover, some research from the parent-child literature has suggested that social withdrawal may not only limit expressions of negativity in the relationship but also positive exchanges between partners (Repetti, 1994; Repetti & Wood, 1997). Given that positive exchanges between partners are vital for strengthening and maintaining intimate relationships (Campos et al., 2009; Hill, 1988), this reduction in positive exchanges may have detrimental consequences for relationship quality over time. As such, the long-term benefits of this coping strategy are questionable, a possibility which has not been adequately considered in prior work. Given these gaps in the existing literature, the current project aimed to more clearly examine the immediate and long-term effects of engaging in social withdrawal on high stress days for couples' relationship well-being.

Contrary to expectations, results across both studies revealed that social withdrawal did not buffer the association between daily stress and (a) daily expressions of negativity or (b) daily relationship satisfaction. In other words, the use of social withdrawal as a coping response for stress did not appear as beneficial for reducing stress spillover as previous research has claimed.

In addition, across both studies, social withdrawal did not moderate the association between daily stress and daily positive exchanges between partners among married couples; however, some unexpected and unusual patterns emerged among dating females in Study 1. When examining both individuals' own and their partner's reports of positive exchanges, the results revealed that although dating females who engaged in social withdrawal on high stress days experienced more positive exchanges compared to dating females who engaged in social withdrawal on low stress days (significant when examining own reports, marginal when examining partner reports), dating females who engaged in social withdrawal on high stress days nonetheless engaged in fewer positive exchanges with their partner compared to dating females who did not engage in social withdrawal on high stress days. However, as this finding only emerged for dating females and was not entirely consistent with hypotheses, these results should be interpreted with caution. Additional research examining the potential importance of relationship status for these processes is needed.

When examining the potential long-term implications of engaging in social withdrawal on high stress days, the results revealed two notable findings. First, if individuals exhibited a stronger tendency to engage in social withdrawal on high stress days, their partner reported greater levels of concurrent marital satisfaction, though the benefits of using this strategy leveled off as use increased from moderate to high. Second, the use of social withdrawal as a coping strategy was also associated with partner's changes in marital satisfaction over time. Contrary to predictions, as individuals' tendency to engage in social withdrawal on high stress days increased from low to moderate, their partners reported greater declines in their marital satisfaction over time. However, the detrimental effect of engaging in social withdrawal on high stress days appeared to reverse as the frequency of using this strategy increased from moderate to high. In

other words, although disengaging from social contact during stressful times may initially protect partners from the harmful effects of individuals' stress, these findings raise questions regarding whether this strategy is ideal for preserving partners' satisfaction over the long term.

WHY MIGHT SOCIAL WITHDRAWAL NOT BE AN ADAPTIVE COPING STRATEGY?

Although some theories within the stress spillover literature suggest that social withdrawal may provide individuals the opportunity to regulate their negative emotions/arousal after a stressful day, which should help reduce the likelihood of negative interactions on days of greater stress (Repetti, 1989), social withdrawal did not buffer the association between individuals' stress and their expressions of negativity toward their partner in either of the current studies. In fact, across both studies, the results suggested that on days when individuals engaged in social withdrawal, they not only experienced fewer positive exchanges with their partner, but also engaged in more negative behaviors toward their partner, regardless of their stress levels. As such, these results are in line with some previous work suggesting that when individuals experience greater stress outside the home, they are both more likely to report withdrawing from their partner later that evening *and* more likely to engage in expressions of negativity toward their partner (Schulz, et al., 2004; Story & Repetti, 2006). It is possible that when stressed individuals return home in a negative arousal state, they engage in conflict with their partner before they have had the opportunity to engage in social withdrawal and recuperate from their day. Alternatively, it could be the case that stressed individuals do indeed engage in social withdrawal before conflict can ensue; however, the experience of social withdrawal may not actually reduce these negative arousal states, leading to conflict later in the evening when partners inevitably interact. Therefore, future work may want to incorporate additional—and potentially biological—measures to assess how interactions between partners unfold after

stressful days. Specifically, research is needed to better understand whether stressed individuals have the opportunity to engage in social withdrawal when they return home and, if they do have such opportunities, whether this engagement in social withdrawal is associated with reductions in the physiological arousal that tends to occur on high stress days.

Another possibility for why social withdrawal did not seem very useful for reducing expressions of negativity on high stress days may be that social withdrawal is only helpful under certain circumstances not examined in the current study. For instance, some research indicates that social support might play an important role in the adaptiveness of social withdrawal. When individuals experience external stress *and* feel understood and validated by their partner (i.e., when they receive social support from their partner), the individual may feel more comfortable engaging in social withdrawal. Relatedly, if partners are supportive of stressed individuals—and the individuals' engagement in social withdrawal—they may even encourage the individual to take time to recharge after a long day. In addition, partners of stressed individuals may engage in more practical social support, such as helping with household chores and other demands, when the individual is experiencing a stressful day (Bolger et al., 1989), which may relieve individuals from some of their daily household tasks and make it easier for them to spend time recovering. As a result of this support—and the individuals' subsequent engagement in social withdrawal—individuals' emotional distress and physiological arousal may be reduced (Conger et al., 1999; Pearlin, & McCall, 1990; Weiss, 1990), and conflict between partners may be kept to a minimum (Cutrona, 1996). In fact, in one study, stressed husbands were less likely to exhibit anger and were more likely to engage in social withdrawal from their spouse if they received more emotional support from their wives that evening (Repetti, 1989). Thus, it is possible that engaging in social withdrawal on high stress days may only lower negative expressions between

partners, and therefore be an adaptive coping strategy, on days when individuals also report receiving support from their partner.

On a related note, it may also be important to consider partners' rejection sensitivity when considering their ability to provide support to stressed individuals. Rejection sensitivity refers to "the disposition to anxiously expect, readily perceive, and intensely react to rejection" (Romero-Canyas et al., 2010, p. 120). Essentially, individuals higher in rejection sensitivity are thought to be especially vigilant for social threat cues and often have more intense emotional and physiological reactions when they do detect signs of social threats (Romero-Canyas, et al., 2010). In fact, previous research has suggested that those individuals with high rejection sensitivity may perceive rejection when a romantic partner engages in ambiguous behaviors, such as acting cool and distant (Downey & Feldman, 1996; Downey et al., 1998). Thus, those higher in rejection sensitivity may interpret stressed individuals' engagement in social withdrawal as a relationship threat, which may lead to them feeling rejected and engaging in expressions of anger and aggression toward the stressed individual (Romero-Canyas, et al., 2010). In other words, although the stressed individual may engage in social withdrawal to limit negative interactions between partners and to protect relationship well-being, this tactic may backfire if the partner is high in rejection sensitivity. In future studies, researchers may want to explore whether social withdrawal may be an especially detrimental coping tactic for stressed individuals if their partner is high in rejection sensitivity or, at the very least, account for this potential covariate in their analyses.

DISTINGUISHING SOCIAL WITHDRAWAL FROM CONFLICT AVOIDANCE PATTERNS

Another potential reason why the hypotheses were not supported in the current project may be related to the way social withdrawal was measured. It is possible that the items used to

measure social withdrawal were too vague; the behaviors captured may not have reflected individuals engaging in recovery after a stressful day but, instead, reflected individuals withdrawing after a conflict with their partner. Much of the prior work on withdrawal behavior within the close relationships literature has focused on withdrawal in the context of relationship conflicts. A substantial amount of work has suggested that when an individual requests a change from their partner, and the partner responds by withdrawing from the conversation, problems tend to go unresolved and relationship well-being often suffers over time (e.g., Christensen & Heavey, 1993; Eldridge et al., 2017; King & DeLongis, 2014). The wording of the items measuring daily social withdrawal in the current study (i.e., "You were withdrawn or distant from your partner" in Study 1; "Spouse withdrew from a conversation" in Study 2) unfortunately do not rule out the possibility that when individuals indicated they engaged in social withdrawal, they were withdrawing from a negative interaction with their partner (instead of withdrawing in order to cope with the stress of their day). If the items were indeed at least partially tapping into demand/withdraw exchanges between partners, then it is perhaps not surprising that the form of withdrawal measured here did not buffer the effects of daily stress on daily relationship well-being. Additionally, this measurement issue may explain why relationship status did not moderate the buffering effect of social withdrawal on the association between individuals' daily stress and their partners' relationship satisfaction. It was expected that the buffering effect of social withdrawal on the association between individuals' daily stress and their partner's relationship satisfaction may be weaker among dating couples in particular given that social withdrawal can be an ambiguous behavior that partners in newly-dating relationships may interpret as a relationship threat. However, engaging in demand/withdraw behavior is likely not

an ambiguous behavior, and as a result, dating partners may not interpret it differently than married partners.

If the item used to assess social withdrawal did tap into demand/withdraw patterns, this could also explain the unexpected results of the long-term analysis in the second study. Previous research has suggested that while directly discussing relationship issues with a partner may initially be linked with lower relationship satisfaction and well-being, these tactics are often associated with enhanced relationship well-being over time (Cohan & Bradbury, 1997; McNulty & Russell, 2010; Overall et al., 2009). It has been theorized that by engaging in conflict openly and directly, partners have increased awareness of the issue at hand and can actively work toward resolving the problem (Holmes & Murray, 1996; Miller et al., 1986). In other words, this work suggests that while engaging in direct, frank conversations about relationship problems may initially be uncomfortable and detrimental to the relationship, they tend to be beneficial for the couple in the long run because they encourage partners to change. Conversely, disengaging or avoiding a conflict may be beneficial in the moment, as this tactic helps individuals avoid uncomfortable and distressing conversations. However, because the root issue of the conflict is not openly discussed, there often is not a resolution to the problem, which has been shown to be associated with reduced relationship satisfaction over time (Donato et al., 2014; Gottman & Krokoff, 1989; Holmes & Murray, 1996). Thus, if the measures of social withdrawal used in the current study actually captured spouses' tendency to avoid conflict interactions with their partner, these findings would be in line with previous work showing that while avoiding conflict can initially be beneficial, over time, this strategy can be detrimental for relationship well-being.

STRENGTHS & LIMITATIONS

The current study had several strengths. First, this research expanded upon previous work by directly examining the link between the use of social withdrawal on high stress days and relationship quality. In addition, this study was the first to examine the long-term implications of engaging in social withdrawal on high stress days for relationship well-being. Another strength of this project was the use of an intensive, repeated measures methodological design. In both studies, daily diary data was used to examine the analyses of interest, which may have reduced the possibility of retrospective bias and increased the accuracy of partners' reports. If partners are asked to provide information about relationship behaviors that occurred over a longer duration of time (e.g., over the past month), it opens up the possibility for their responses to be influenced by their current mood or relationship satisfaction. This is otherwise known as sentiment override (Weiss, 1980). However, the accuracy of these reports can be increased by asking partners to report on their relationship experiences on a daily basis, as done in the current studies. In addition, in both studies, I was able to use daily diary assessments completed by both individuals and their partners. This allowed me to examine the potential implications of engaging in social withdrawal on high stress days for both stressed individuals and their partners, thereby extending previous work in this area.

However, the current study is not without limitations. First, social withdrawal was assessed using only a single item, and participants rarely reported engaging in social withdrawal. Specifically, across both studies, participants only engaged in social withdrawal on approximately 5% - 7% of diary days. The low occurrence of social withdrawal likely reduced power for detecting significant moderating effects. In future studies, researchers may consider

expanding their measure of social withdrawal to include additional items in order to create a more robust and encompassing assessment of social withdrawal behaviors.

Second, as previously mentioned, the social withdrawal item used in the current study (i.e., "You were withdrawn or distant from your partner" in Study 1; "Spouse withdrew from a conversation" in Study 2) presented additional limitations. Again, the phrasing of these items does not necessarily rule out that individuals were withdrawing from their partners demands rather than simply taking some time alone to decompress. In future studies, when expanding the measurement of social withdrawal as a coping strategy, researchers might include items that explicitly gauge whether the individual withdrew from their partner solely to recuperate from the stress of their day, or if they withdrew from their partner after experiencing a negative interaction. For instance, previous researchers have utilized items such as "I was in my own world", "I read the paper (or watched TV) when my partner probably would have preferred some attention", and "I was too tried to interact with people" to measure daily social withdrawal, which may be a more accurate way to capture the occurrence of this strategy (Schulz et al., 2004; Story & Repetti, 2006). This approach may enable researchers to more effectively untangle the construct of engaging in social withdrawal to recuperate from stress from the construct of withdrawing to avoid conflict with a partner.

CONCLUSION

The current project extended previous research in several ways. First, unlike prior studies, I directly examined whether the use of social withdrawal as a coping strategy buffered both partners from the harmful effects of stress spillover. Furthermore, this project aimed to advance the literature by examining not only the potential immediate effects of utilizing social withdrawal, but also the long-term implications. Extending previous work on social withdrawal,

I found that engaging in social withdrawal as a way to cope with high stress days has minimal benefits for the relationship. On a daily basis, there was no evidence that engaging in social withdrawal on high stress days protects relationships against the harmful effects of stress spillover. Moreover, regardless of stress, engaging in social withdrawal was associated with fewer exchanges of positivity, which may have detrimental effects on relationship well-being over time. Lastly, although there was some evidence that partners of stressed individuals tend to report higher initial relationship satisfaction if the stressed individual has a high tendency to enact social withdrawal on high stress days, the results suggested that having a low tendency to engage in social withdrawal on high stress days may be most beneficial for partners' relationship well-being over time. This pattern of results suggests that social withdrawal is not as beneficial as previous research has argued. However, as outlined above, there are some key constructs that were not explored in the current study that may have important implications for the adaptiveness of social withdrawal. In addition, there were a couple of key methodological issues in the current project that likely impacted the findings. Thus, future researchers should enhance their measurement of social withdrawal to better ensure that social withdrawal (vs. demand/withdraw or conflict avoidance patterns) are being captured. Although the current study suggests that social withdrawal may not be a helpful strategy to utilize on high stress days, additional research on this topic is needed to clarify the adaptiveness of this coping tactic.

Table 1

Descriptive Statistics for Study 1 Variables of Interest

Variable	Males			Females		
	M	*SD*	Range	*M*	*SD*	Range
Age	50.17	13.55	30.00–88.00	48.76	12.73	30.00–85.00
General relationship satisfaction	42.56	7.78	2.00–51.00	42.60	6.98	8.00–51.00
Average daily stress	1.27	0.70	0.00–3.86	1.23	0.67	0.00–3.76
Average daily social withdrawal	0.06	0.08	0.00–0.57	0.07	0.11	0.00–1.00
Average own daily negative relationship behaviors	0.29	0.32	0.00–2.00	0.29	0.30	0.00–1.81
Average daily perceptions of a partner's daily negative relationship behaviors	0.29	0.35	0.00–2.50	0.24	0.27	0.00–2.00
Average own daily positive relationship exchanges	4.19	1.33	1.24–7.00	4.15	1.30	1.13–7.00
Average daily perceptions of a partner's positive relationship exchanges	3.96	1.40	0.62–6.86	4.03	1.32	0.78–6.67
Average daily relationship satisfaction	6.02	0.97	1.38–7.00	5.96	0.93	2.50–7.00

Note. General relationship satisfaction could range from 0 to 51. For the purposes of this table, all daily variables are averaged across the three-week period. Average daily stress could range from 0 to 15, and daily social withdrawal could range from 0 to 1. Average daily own negative relationship behaviors and average perceptions of a partner's daily negative relationship behaviors could range from 0 to 3. Average daily own positive relationship exchanges and average perceptions of a partner's daily positive relationship exchanges could range from 0 to 7. Average daily relationship satisfaction could range from 1 to 7.

Table 2

Within-Partner and Between-Partner Correlations for Study 1 Variables of Interest

	1	2	3	4	5	6	7	8	9	10	11	12
1. Rel status	**1.00*** **	-0.24***	-0.76***	0.91	-0.29***	-0.00	0.19**	0.02	0.05	0.17**	0.17**	-0.01
2. Age	-0.25***	**0.96*** **	0.20***	0.13*	-0.50***	-0.38***	-0.25***	0.00	-0.25***	0.02	0.01	0.07
3. Coh	-0.76***	0.19**	**0.98*** **	0.04	0.22***	-0.01	-0.13*	0.99	-0.02	-0.07	-0.08	0.00
4. Gen rel sat	-0.03	0.12*	0.10^{+}	**0.53*** **	-0.13*	-0.15*	-0.28***	0.00	-0.27***	0.37***	0.41***	0.62***
5. Chl	-0.21**	-0.53***	0.14*	-0.11^{+}	**0.85*** **	0.42***	0.11^{+}	0.19**	0.14*	-0.17**	-0.14*	-0.10^{+}
6. Avg dl str	-0.09*	-0.26***	0.13*	-0.11^{+}	0.41***	**0.37*** **	0.26***	0.39***	0.35***	0.16	0.01	-0.17**
7. Avg dl sw	0.10^{+}	-0.28***	-0.03	-0.30***	0.14*	0.21***	**0.29*** **	0.48***	0.53***	-0.20**	-0.21***	-0.51***
8. Avg own dl nb	0.07	-0.09	-0.01	0.05	0.04	0.04	0.07	**-0.01**	0.82***	-0.15*	-0.18**	-0.44***
9. Avg ppar's dl nb	0.08	-0.07	-0.01	0.00	0.03	0.05	0.06	0.86***	**0.00**	-0.14*	-0.20**	-0.45***
10. Avg own dl pe	0.12*	0.03	-0.12^{+}	-0.01	0.01	0.23	0.00	-0.16**	-0.14*	**0.04**	0.96***	0.51***
11. Avg ppar's dl pe	0.13*	0.04	-0.13*	-0.04	0.03	0.05	-0.01	-0.20**	-0.22***	0.96***	**-0.03**	0.56***
12. Avg dl rel sat	-0.05	0.20**	0.11^{+}	0.74***	-0.19**	-0.21***	-0.42***	0.02	-0.02	-0.03	-0.03	**0.55*** **

Note. Male partners' correlations are below the diagonal, and female partners' correlations are above. The diagonal (in bold) contains between-partner correlations. Rel = relationship; sat = satisfaction; Coh = cohabitation; avg = average; dl = daily; str = stress; sw = social withdrawal; nb = negative relationship behaviors; ppar's = perceptions of a partner's; pe = positive relationship exchanges. $^{+}p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Table 3

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Own Daily Negative Relationship Behaviors

Variable	*b*	*SE*	*t*	*p*	95% CI	
					LL	*UL*
Own daily negative relationship behaviors (Intercept)	0.22	0.02				
Average own social withdrawal	0.31	0.16	1.88	.061	0.09	0.52
Average own stress	0.11	0.02	7.04	<.001	0.07	0.15
Diary day	-0.00	0.00	-1.32	.189	-0.00	0.00
Own daily social withdrawal	0.66	0.05	12.82	<.001	0.56	0.76
Own daily stress	0.07	0.01	8.42	<.001	0.05	0.10
Own daily social withdrawal X own daily stress	0.04	0.04	0.93	.352	-0.04	0.12

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 4

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Partners' Perceptions of Individuals' Daily Negative Relationship Behaviors

Variable	*b*	*SE*	*t*	*p*	95% CI *LL*	95% CI *UL*
Males						
Partners' perceptions of individuals' daily positive relationship exchanges (Intercept)	0.26	0.02				
Average own social withdrawal	0.54	0.22	2.45	.015	0.11	0.97
Average own stress	0.12	0.03	4.66	<.001	0.06	0.18
Diary day	-0.00	0.00	-1.54	.124	-0.00	0.00
Own daily social withdrawal	0.74	0.08	9.55	<.001	0.58	0.90
Own daily stress	0.08	0.01	5.95	<.001	0.06	0.10
Own daily social withdrawal X own daily stress	-0.05	0.07	-0.64	.525	-0.19	0.09
Females						
Partners' perceptions of individuals' daily positive relationship exchanges (Intercept)	0.18	0.02				
Average own social withdrawal	0.34	0.19	1.78	.076	-0.03	0.71
Average own stress	0.08	0.02	4.15	<.001	0.04	0.12
Diary day	0.00	0.00	0.93	.354	-0.00	0.00
Own daily social withdrawal	0.71	0.07	10.43	<.001	0.57	0.85
Own daily stress	0.06	0.01	5.54	<.001	0.04	0.08
Own daily social withdrawal X own daily stress	-0.01	0.06	-0.17	.862	-0.13	0.11

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 5

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Own Daily Positive Relationship Exchanges

Variable	*b*	*SE*	*t*	*p*	95% CI *LL*	95% CI *UL*
Results without covariates						
Own daily positive relationship exchanges (Intercept)	4.48	0.07				
Average own social withdrawal	-0.12	0.48	-2.34	.020	-2.06	-0.18
Average own stress	0.23	0.07	3.38	<.001	0.09	0.37
Diary day	-0.02	0.00	-4.73	<.001	-0.02	-0.02
Own daily social withdrawal	-1.14	0.09	-12.16	<.001	-1.32	-0.96
Own daily stress	-0.09	0.02	-4.12	<.001	-0.13	-0.05
Own daily social withdrawal X own daily stress	0.13	-.06	2.08	.038	0.25	0.01
Results including covariates						
Own daily positive relationship exchanges (Intercept)	4.80	0.12				
Average own social withdrawal	-0.20	0.46	-0.43	.665	-1.10	0.70
Average own stress	0.34	0.07	4.81	<.001	0.20	0.48
Age	0.01	0.00	1.75	.081	-0.00	0.02
Cohabitation	-0.23	0.13	-1.86	.064	-0.48	0.02
Relationship Satisfaction	0.06	0.01	8.34	<.001	0.04	0.08
Children living in the home	-0.31	0.13	-2.38	.018	-0.56	-0.06
Diary day	-0.02	0.00	-4.78	<.001	-0.02	-0.02
Own daily social withdrawal	-1.17	0.09	-12.38	<.001	-1.35	-0.99
Own daily stress	-0.10	0.02	-4.15	<.001	-0.14	-0.06
Own daily social withdrawal X own daily stress	0.10	0.06	1.72	.088	-0.02	0.22

Note. All coefficients are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 6

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Partners' Perceptions of Individuals' Daily Positive Relationship Exchanges

Variable	*b*	*SE*	*t*	*p*	95% CI	
					LL	*UL*
Partners' perceptions of individuals' daily positive relationship exchanges (Intercept)	4.27	0.08				
Average own social withdrawal	-1.58	0.52	-3.02	.003	-2.60	-0.56
Average own stress	0.25	0.07	3.38	<.001	0.11	0.39
Diary day	-0.02	0.00	-5.30	<.001	-0.02	-0.02
Own daily social withdrawal	-0.20	0.09	-10.55	<.001	-0.38	-0.02
Own daily stress	-0.09	0.02	-3.94	<.001	-0.13	-0.05
Own daily social withdrawal X own daily stress	0.06	0.07	0.82	.410	-0.07	0.20

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 7

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Daily Relationship Satisfaction

Variable	*b*	*SE*	*t*	*p*	95% CI	
					LL	*UL*
Daily relationship satisfaction (Intercept)	6.12	0.04				
Average own social withdrawal	-2.47	0.34	-7.12	<.001	-3.14	-1.80
Average own stress	-0.07	0.05	-1.41	.159	-0.17	0.03
Average partner social withdrawal	-0.49	0.36	-1.35	.178	-1.20	0.22
Average partner stress	-0.06	0.04	-1.44	.151	-0.14	0.02
Diary day	-0.00	0.00	-1.53	.126	-0.01	0.00
Own daily social withdrawal	-0.86	0.05	-15.86	<.001	-0.96	-0.76
Own daily stress	-0.08	0.01	-7.33	<.001	-0.10	-0.06
Partner daily social withdrawal	-0.55	0.06	-9.94	<.001	-0.67	-0.43
Partner daily stress	-0.03	0.01	-3.37	<.001	-0.05	-0.01
Own daily social withdrawal X own daily stress	0.03	0.05	0.65	.518	-0.07	0.13
Partner daily social withdrawal X partner daily stress	-0.05	0.05	-1.07	.287	-0.15	0.05

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 8

Results for the Three-way Interaction Between Relationship Status, Daily Social Withdrawal, and Daily Stress on Own Daily Negative Relationship Behaviors

Variable	*b*	*SE*	*t*	*p*	95% CI *LL*	95% CI *UL*
Own daily negative relationship behaviors (Intercept)	0.22	0.02				
Average own social withdrawal	0.30	0.16	1.90	.059	-0.01	0.61
Average own stress	0.12	0.02	7.03	<.001	0.08	0.15
Relationship status	0.01	0.02	0.22	.827	-0.03	0.05
Diary day	-0.00	0.00	-1.31	.191	-0.00	0.00
Own daily social withdrawal	0.66	0.05	12.75	<.001	0.56	0.76
Own daily stress	0.07	0.01	8.40	<.001	0.05	0.09
Own daily social withdrawal X own daily stress	0.08	0.05	1.40	.162	-0.02	0.18
Relationship status X own daily social withdrawal X own daily stress	-0.11	0.08	-1.38	.170	-0.27	0.05

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 9

Results for the Three-way Interaction Between Relationship Status, Daily Social Withdrawal, and Daily Stress on Partners' Perceptions of Individuals' Daily Negative Relationship Behaviors

					95% CI	
Variable	*b*	*SE*	*t*	*p*	*LL*	*UL*
Partners' perceptions of individuals' daily negative relationship behaviors (Intercept)	0.20	0.02				
Average own social withdrawal	0.39	0.15	2.53	.012	0.10	0.68
Average own stress	0.10	0.02	5.59	<.001	0.06	0.14
Relationship status	0.01	0.03	0.43	.665	-0.05	0.07
Diary day	-0.00	0.00	-0.09	.928	-0.00	0.00
Own daily social withdrawal	0.71	0.06	12.84	<.001	0.59	0.83
Own daily stress	0.07	0.01	7.06	<.001	0.05	0.09
Own daily social withdrawal X own daily stress	-0.01	0.06	-0.10	.921	-0.13	0.11
Relationship status X own daily social withdrawal X own daily stress	-0.13	0.09	-1.57	.118	-0.31	0.05

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 10

Results for the Three-way Interaction Between Relationship Status, Daily Social Withdrawal, and Daily Stress on Own Daily Positive Relationship Exchanges

Variable	*b*	*SE*	*t*	*p*	95% CI *LL*	95% CI *UL*
Males						
Own daily positive relationship exchanges (Intercept)	4.38	0.10				
Average own social withdrawal	-1.27	0.67	-1.89	.060	-2.58	0.04
Average own stress	0.21	0.09	2.36	.019	0.03	0.39
Relationship status	0.49	0.14	3.42	<.001	0.22	0.76
Diary day	-0.02	0.00	-3.18	.002	-0.02	-0.02
Own daily social withdrawal	-1.17	0.14	-8.65	<.001	-1.44	-0.90
Own daily stress	-0.06	0.03	-2.19	.029	-0.12	-0.00
Own daily social withdrawal X own daily stress	0.19	0.11	1.70	.091	-0.03	0.41
Relationship status X own daily social withdrawal X own daily stress	-0.17	0.17	-1.02	.307	-0.50	0.16
Females						
Own daily positive relationship exchanges (Intercept)	4.28	0.10				
Average own social withdrawal	-1.64	0.64	-2.56	.011	-2.89	-0.39
Average own stress	0.31	0.09	3.30	.001	0.13	0.49
Relationship status	0.46	0.16	2.95	.003	0.15	0.77
Diary day	-0.02	0.00	-4.45	<.001	-0.02	-0.02
Own daily social withdrawal	-1.08	0.12	-9.25	<.001	-1.32	-0.84
Own daily stress	-0.13	0.03	-4.37	<.001	-0.19	-0.07
Own daily social withdrawal X own daily stress	-0.10	0.08	-1.25	.214	-0.26	0.06
Relationship status X own daily social withdrawal X own daily stress	0.69	0.15	4.53	<.001	0.40	0.98

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 11

Results for the Three-way Interaction Between Relationship Status, Daily Social Withdrawal, and Daily Stress on Partners' Perceptions of Individuals' Daily Positive Relationship Exchanges

					95% CI	
	b	*SE*	*t*	*p*	*LL*	*UL*
Males						
Partners' perceptions of individuals' daily positive relationship exchanges (intercept)	3.99	0.11				
Average own social withdrawal	-2.04	0.77	-2.65	.008	-3.55	-0.53
Average own stress	0.21	0.10	2.22	.027	0.01	0.41
Relationship status	0.69	0.16	4.43	<.001	0.38	1.00
Diary day	-0.01	0.00	-2.98	.003	-0.01	-0.01
Own daily social withdrawal	-0.91	0.14	-6.40	<.001	-1.18	-0.64
Own daily stress	-0.05	0.03	-1.63	.104	-0.11	0.01
Own daily social withdrawal X own daily stress	0.04	0.11	0.37	.714	-0.18	0.26
Relationship status X own daily social withdrawal X own daily stress	0.11	0.20	0.57	.566	-0.05	0.03
Females						
Partners' perceptions of individuals' daily positive relationship exchanges (intercept)	4.15	0.10				
Average own social withdrawal	-1.92	0.62	-3.09	.002	-3.14	-0.70
Average own stress	0.33	0.09	3.66	<.001	0.15	0.51
Relationship status	0.54	0.16	3.34	<.001	0.23	0.85
Diary day	-0.02	0.00	-5.39	<.001	-0.02	-0.02
Own daily social withdrawal	-0.98	0.12	-8.42	<.001	-1.22	-0.74
Own daily stress	-0.13	0.03	-4.23	<.001	-0.19	-0.07
Own daily social withdrawal X own daily stress	-0.22	0.11	-1.96	.051	-0.44	-0.00
Relationship status X own daily social withdrawal X own daily stress	0.72	0.17	4.31	<.001	0.39	1.05

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 12

Results for the Three-way Interaction Between Relationship Status, Daily Social Withdrawal, and Daily Stress on Daily Relationship Satisfaction

Variable	*b*	*SE*	*t*	*p*	95% CI *LL*	95% CI *UL*
Daily relationship satisfaction (Intercept)	6.07	0.05				
Average own social withdrawal	-2.60	0.35	-7.49	<.001	-3.29	-1.91
Average own stress	-0.06	0.05	-1.22	.224	-0.16	0.04
Average partner social withdrawal	-0.60	0.36	-1.65	.100	-1.31	0.11
Average partner stress	-0.06	0.04	-1.19	.234	-0.14	0.02
Relationship status	0.18	0.09	2.09	.037	0.00	0.36
Diary day	-0.00	0.00	-1.55	.123	-0.01	0.00
Own daily social withdrawal	-0.86	0.05	-15.92	<.001	-0.96	-0.76
Own daily stress	-0.08	0.01	-7.29	<.001	-0.10	-0.06
Partner daily social withdrawal	-0.55	0.06	-9.90	<.001	-0.67	-0.43
Partner daily stress	-0.03	0.01	-3.36	<.001	-0.05	-0.01
Own daily social withdrawal X own daily stress	-0.01	0.06	-0.22	.830	-0.13	0.11
Relationship status X own daily social withdrawal X own daily stress	0.15	0.11	1.38	.169	-0.07	0.37
Partner daily social withdrawal X partner daily stress	-0.02	0.06	-0.35	.728	-0.14	0.10
Relationship status X partner daily social withdrawal X partner daily stress	-0.10	0.10	-0.91	.363	-0.30	0.10

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 13

Descriptive Statistics for Study 2 Variables of Interest

	Husbands			Wives		
Variable	*M*	*SD*	Range	*M*	*SD*	Range
Wave 1 general relationship satisfaction	83.21	10.53	35.00–95.00	84.85	9.41	43.00–95.00
Wave 2 general relationship satisfaction	79.42	14.01	25.00–95.00	81.28	12.62	31.00–95.00
Wave 3 general relationship satisfaction	78.27	13.48	25.00–95.00	78.64	14.84	19.00–95.00
Wave 4 general relationship satisfaction	76.84	15.01	17.00–95.00	79.07	17.65	1.00–95.00
Wave 5 general relationship satisfaction	77.59	14.76	20.00–95.00	80.38	13.84	13.00–95.00
Wave 6 general relationship satisfaction	76.33	17.28	9.00–95.00	77.92	17.74	9.00–95.00
Average daily stress	0.65	0.44	0.00–1.93	0.74	0.41	0.00–2.07
Average daily social withdrawal	0.08	0.11	0.00–0.57	0.07	0.10	0.00–0.50
Average own daily negative relationship behaviors	0.33	0.35	0.00–1.77	0.40	0.39	0.00–2.21
Average daily perceptions of a partner's negative relationship behaviors	0.45	0.47	0.00–2.31	0.34	0.36	0.00–2.43
Average own daily positive relationship exchanges	1.92	0.64	0.29–3.00	1.95	0.66	0.21–3.00
Average daily perceptions of a partner's positive exchanges	1.94	0.60	0.38–3.00	1.93	0.62	0.25–3.00
Average daily relationship satisfaction	6.20	0.82	3.50–7.00	6.21	0.79	2.93–7.00

Note. General relationship satisfaction could range from 0 to 95. For the purposes of this table, all daily variables are averaged across the two-week period. Average daily stress could range from 0 to 9, and daily social withdrawal could range from 0 to 1. Average daily own negative relationship behaviors and average perceptions of a partner's daily negative relationship behaviors could range from 0 to 3. Average daily own positive relationship behaviors and average perceptions of a partner's daily positive relationship behaviors could range from 0 to 3. Average daily relationship satisfaction could range from 1 to 7.

Table 14

Within-Partner and Between-Partner Correlations for Study 2 Variables of Interest

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. W1 g rel sat	**0.39*** **	0.52***	0.45***	0.41***	0.35***	0.34***	0.01	-0.17*	-0.14^{+}	-0.23**	0.13	0.20*	0.42***
2. W2 gen rel sat	0.67***	**0.61*** **	0.57***	0.62***	0.39***	0.35***	-0.10	-0.21**	-0.13^{+}	-0.17*	0.23**	0.29***	0.48***
3. W3 gen rel sat	0.63***	0.59***	**0.55*** **	0.71***	0.36***	0.50***	0.01	-0.29***	-0.21*	-0.17*	0.28***	0.31***	0.50***
4. W4 gen rel sat	0.46***	0.63***	0.72***	**0.59*** **	0.66***	0.64***	-0.10	-0.51***	-0.30***	-0.31***	0.19*	0.25**	0.47***
5. W5 gen rel sat	0.55***	0.59***	0.71***	0.70***	**0.53*** **	0.76***	-0.02	-0.21*	-0.21*	-0.13	0.18*	0.22**	0.26**
6. W6 gen rel sat	0.45***	0.44***	0.66***	0.71***	0.86***	**0.65*** **	0.12	-0.31***	-0.18*	-0.09	0.27**	0.30**	0.38***
7. Avg dl str	0.10	0.18*	0.01	0.09	0.09	0.07	**0.26** **	0.20*	0.24**	0.19*	0.05	0.03	-0.10
8. Avg dl sw	-0.18*	-0.21**	-0.18*	-0.29***	-0.22*	-0.15	0.22**	**0.19* **	0.57***	0.55***	-0.03	-0.09	-0.39***
9. Avg own dl nb	-0.27***	-0.24**	-0.35***	-0.39***	-0.33***	-0.23**	0.16*	0.50***	**0.64*** **	0.87***	0.11	0.05	-0.34***
10. Avg daily ppar's nb	-0.22**	-0.23**	-0.37***	-0.47***	-0.37***	-0.33***	0.18*	0.58***	0.81***	**0.53*** **	0.14^{+}	0.04	-0.31***
11. Avg own dl pe	0.20*	0.15^{+}	0.27**	0.17*	0.24**	0.15	0.10	0.18*	0.01	0.06	**0.38*** **	0.92***	0.46***
12. Avg dl ppar's pe	0.26*	0.24**	0.33***	0.29***	0.32***	0.24**	0.06	0.08	-0.08	-0.07	0.89***	**0.47*** **	0.49***
13. Avg dl rel sat	0.54***	0.44***	0.54***	0.54***	0.54***	0.40***	-0.08	-0.33***	-0.49***	-0.49***	0.34***	0.36***	**0.45*** **

Note. Husbands' correlations are below the diagonal, and wives' correlations are above. The diagonal (in bold) contains between-partner correlations. W = wave; Gen = general; rel = relationship; sat = satisfaction; avg = average; dl = daily; str = stress; sw = social withdrawal; nb = negative relationship behaviors; ppar's = perceptions of a partner's; pe = positive relationship exchanges. $^{+}p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 15

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Own Daily Negative Relationship Behaviors

Variable	*b*	*SE*	*t*	*p*	95% CI	
					LL	*UL*
Own daily negative relationship behaviors (Intercept)	0.31	0.03				
Average own social withdrawal	0.17	0.20	0.86	.394	-0.22	0.56
Average own stress	0.05	0.04	1.32	.188	-0.03	0.13
Diary day	-0.01	0.00	-1.91	.058	-0.01	0.00
Own daily social withdrawal	1.05	0.08	12.82	<.001	0.89	1.21
Own daily stress	0.09	0.02	4.60	<.001	0.05	0.13
Own daily social withdrawal X own daily stress	-0.14	0.10	-1.42	.157	-0.34	0.06

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 16

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Partners' Perceptions of Individuals' Daily Negative Relationship Behaviors

					95% CI	
	b	*SE*	*t*	*p*	*LL*	*UL*
Partners' perceptions of individuals' daily negative relationship behaviors (intercept)	0.33	0.03				
Average own social withdrawal	0.76	0.28	2.75	.007	0.21	1.31
Average own stress	0.07	0.04	1.83	.069	-0.01	0.15
Diary day	-0.01	0.00	-2.08	.039	-0.01	-0.00
Own daily social withdrawal	1.13	0.08	13.93	<.001	0.97	1.29
Own daily stress	0.07	0.02	3.56	<.001	0.03	0.11
Own daily social withdrawal X own daily stress	-0.01	0.09	-0.06	.950	-0.19	0.17

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 17

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Own Daily Positive Relationship Exchanges

Variable	*b*	*SE*	*t*	*p*	95% CI	
					LL	*UL*
Own daily positive relationship exchanges (Intercept)	1.97	0.04				
Average own social withdrawal	0.55	0.32	1.72	.087	-0.08	1.18
Average own stress	0.05	0.08	0.60	.547	-0.11	0.21
Diary day	-0.00	0.00	-0.72	.475	-0.01	0.01
Own daily social withdrawal	-0.17	0.05	-3.43	<.001	-0.27	-0.07
Own daily stress	-0.07	0.02	-3.08	<.001	-0.11	-0.03
Own daily social withdrawal X own daily stress	0.04	0.07	0.62	.538	-0.10	0.18

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 18

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Partners' Perceptions of Individuals' Daily Positive Relationship Exchanges

Variable	*b*	*SE*	*t*	*p*	95% CI *LL*	95% CI *UL*
Partners' perceptions of individuals' daily positive relationship exchanges (Intercept)	1.97	0.04				
Average own social withdrawal	0.43	0.30	1.40	.163	-0.16	1.02
Average own stress	0.07	0.07	0.97	.336	-0.07	0.21
Diary day	-0.00	0.00	-0.03	.978	-0.01	0.01
Own daily social withdrawal	-0.34	0.05	-6.31	<.001	-0.44	-0.24
Own daily stress	-0.05	0.02	-2.18	.031	-0.09	-0.01
Own daily social withdrawal X own daily stress	-0.06	0.06	-0.88	.381	-0.18	0.06

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 19

The Moderating Effects of Daily Social Withdrawal on the Association Between Own Daily Stress and Daily Relationship Satisfaction

Variable	*b*	*SE*	*t*	*p*	95% CI	
					LL	*UL*
Daily relationship satisfaction (Intercept)	6.29	0.05				
Average own social withdrawal	-1.00	0.33	-3.05	.003	-1.65	-0.35
Average own stress	-0.02	0.07	-0.37	.714	-0.16	0.12
Average partner social withdrawal	-0.76	0.37	-2.70	.040	-1.49	-0.03
Average partner stress	0.03	0.07	0.47	.642	-0.11	0.17
Diary day	0.01	0.00	1.92	.057	-0.01	0.01
Own daily social withdrawal	-0.78	0.08	-10.34	<.001	-0.94	-0.62
Own daily stress	-0.06	0.02	-2.93	.004	-0.10	-0.02
Partner daily social withdrawal	-0.53	0.07	-7.91	<.001	-0.67	-0.39
Partner daily stress	-0.05	0.02	-2.40	.017	-0.09	-0.01
Own daily social withdrawal X own daily stress	-0.10	0.09	-1.13	.260	-0.28	0.08
Partner daily social withdrawal X partner daily stress	0.12	0.08	1.45	.149	-0.04	0.28

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 20

The Association Between the Tendency to Withdraw on High Stress Days and Marital Satisfaction

					95% CI	
	b	*SE*	*t*	*p*	*LL*	*UL*
Marital satisfaction (intercept)	83.06	0.67				
Average own social withdrawal tendency	10.31	6.42	1.61	.110	-2.27	22.89
Average partner social withdrawal tendency	25.56	6.13	4.17	<.001	13.54	37.57
Average own social withdrawal tendency squared	-14.09	8.44	-1.67	.097	-30.63	2.45
Average partner social withdrawal tendency squared	-23.20	6.95	-3.34	.001	-36.82	-9.58
Time (phase)	-1.92	0.28	-6.76	<.001	-2.47	-1.37
Average own social withdrawal tendency X Time	2.50	1.70	1.47	.142	-0.83	5.83
Average partner social withdrawal tendency X Time	-0.94	1.14	-0.82	.411	-3.17	1.29
Average own social withdrawal tendency squared X Time	0.55	2.52	0.22	.826	-4.39	5.49
Average partner social withdrawal tendency squared X Time	4.70	2.17	2.17	.032	0.45	8.95

Note. All coefficients presented are pooled across gender. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

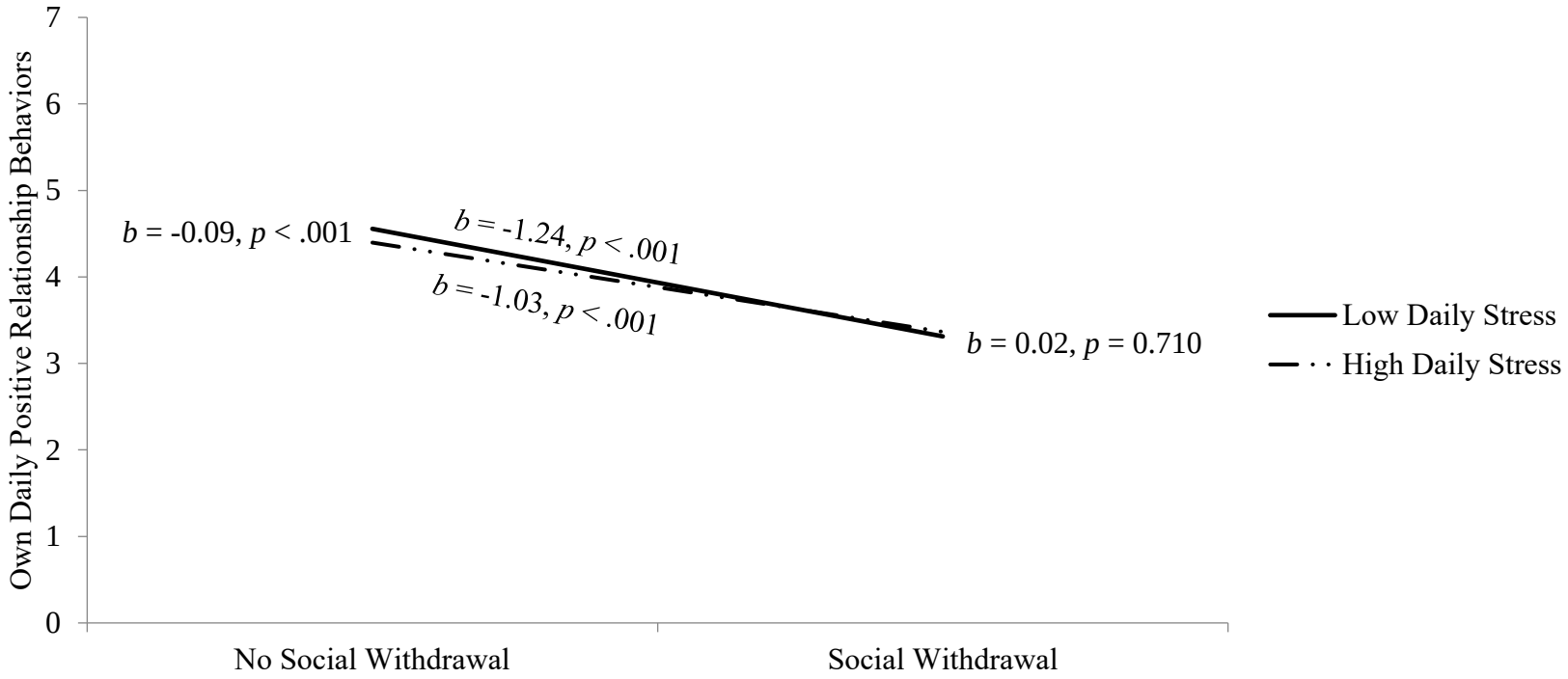

Figure 1. The interaction of daily social withdrawal and daily stress predicting individuals' own reports of their daily positive relationship exchanges in Study 1.

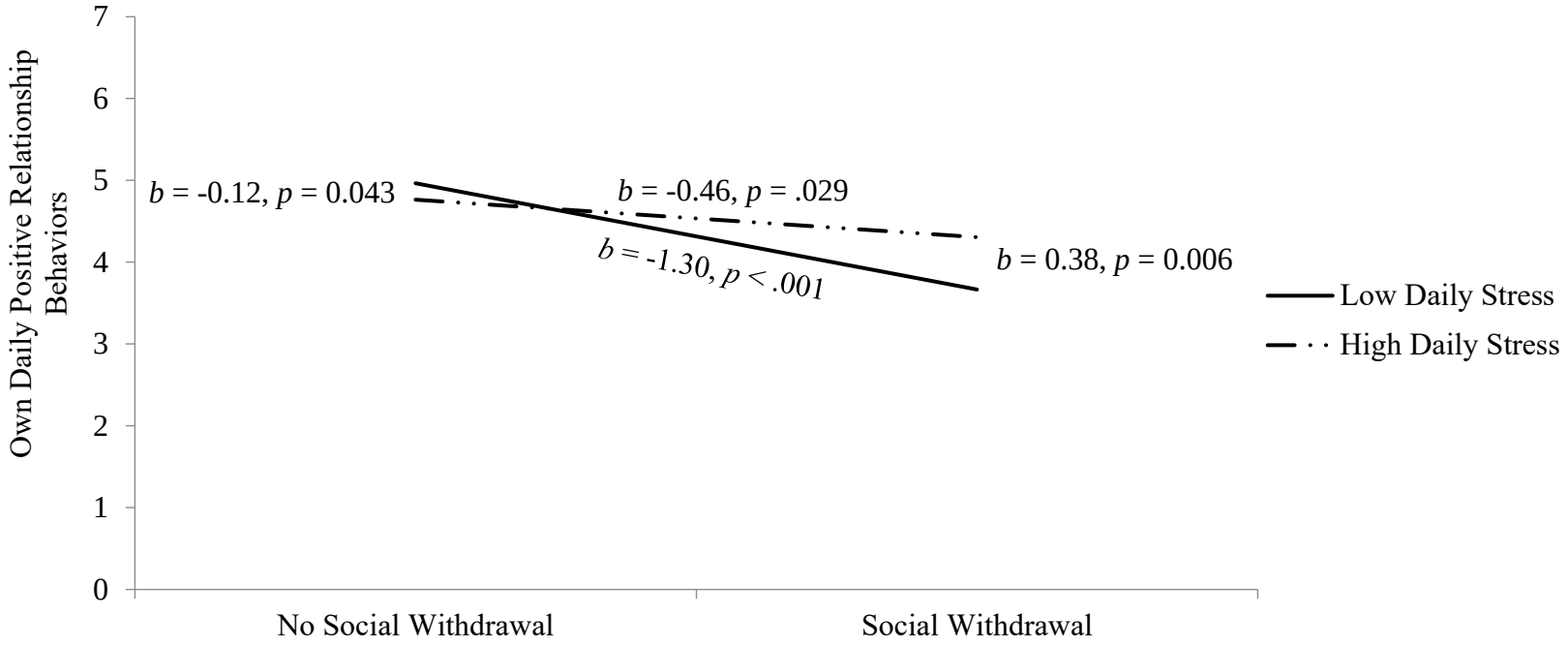

Figure 2. The interaction of daily social withdrawal and daily stress predicting individuals' own reports of their daily positive relationship exchanges for dating females in Study 1.

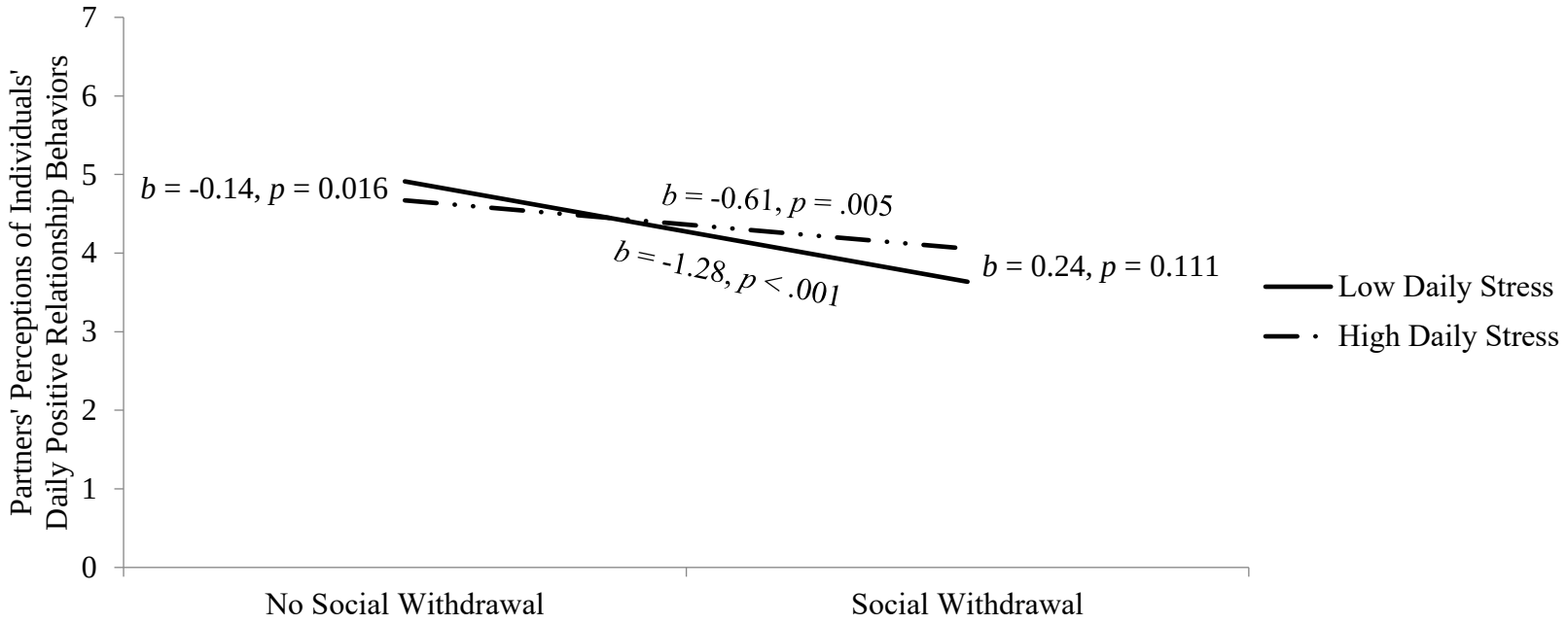

Figure 3. The interaction of daily social withdrawal and daily stress predicting partners' perceptions of individuals' daily positive relationship exchanges for dating females in Study 1.

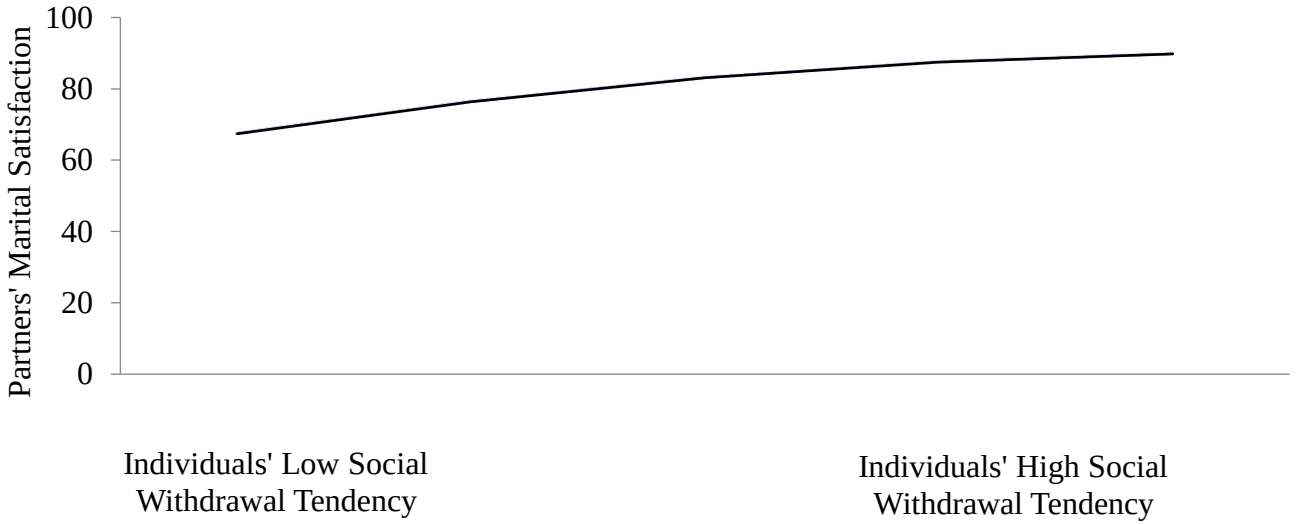

Figure 4. The association between individuals' tendency to engage in social withdrawal on high stress days and their partners' initial marital satisfaction.

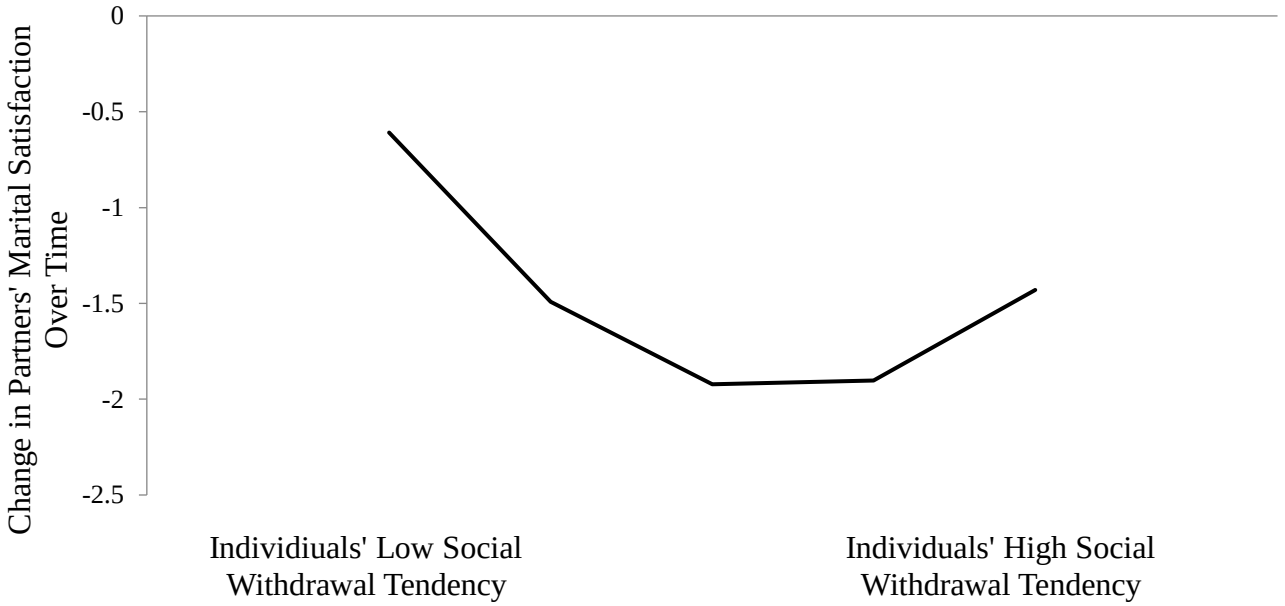

Figure 5. The association between individuals' tendency to engage in social withdrawal on high stress days and change in their partners' marital satisfaction over time.

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